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Editorial.

PUPILAGE WITH "A QUALIFIED VETERINARY PRECEPTOR."

THE Toronto University Veterinary School (until recently known as the Ontario Veterinary College) has given a lead which might well and profitably be copied by every Veterinary School in Great Britain and America. By the new regulations each pupil is required to spend six months at the college, and "during the rest of the year to continue his studies with a qualified veterinary preceptor."

The idea is a most excellent one, and there is no question but that if it was the law elsewhere our graduates would be turned out of college much more fitted to enter general practice than they are at present. That they should spend their vacations with a "duly qualified" man is a necessary regulation, especially in countries where quacks and empirics abound; but the main point is that such a course shall be compulsory, and not voluntary, as at present. Many a student at the present day receives his diploma and issues forth upon the public as fully qualified to practise the "science and art of veterinary medicine and surgery," without having seen more than at most three or four months of what a general practitioner's life is like, and finds, to his disappointment, that the hardest tasks of all lie in front. The most receptive age for learning elementary necessities has passed, and it is much more difficult for the newly-fledged graduate, full of the dignity the new diploma gives, to commence to learn common-sense things which he ought to have known four years before.

Twenty years ago the veterinary students were drawn mainly from a section of the public who had been brought up amongst animals all their lives, and to them it came quite naturally to approach and handle their future patients in a proper and rational manner; they had, too, a thorough knowledge of their habits in health, of the various dietaries suitable for each respective class, and were acquainted with the different variations of breed. Nowadays by far the majority are town-bred, and come straight from school to college; their first vacation is not provided for, and is usually spent in a so-called "holiday," instead of with a busy practitioner, and it is often not until the third vacation is reached that any attempt is made to "see practice." By this time the student's sense of growing importance has imbued him with the idea that he must be paid for his "services," and, if fortunate enough to secure a place, his real life commences. If, unfortunately for him, he is unable to obtain a situation, the third vacation is loafed through, the diploma is obtained, and he then looks around to find out where he may gain experience. His college practice, if he has been lucky enough to be at a college where patients are numerous, has consisted mainly of horses and dogs, but the diseased conditions of the other animals of the farm have existed only up to the present in his text-book, and when confronted with the practical diagnosis of some of them he fails to recognize the symptoms. Besides all this, he has yet to learn the different breeds and varieties, for no one is quicker than the farmer to notice ignorance in these points, and there are numbers of recently qualified men who cannot ride or drive.

All these things are avoidable by early pupilage with a qualified veterinary preceptor, and although it is highly important that we should be skilled in deep learning, it is also equally important that our students shall receive instruction in the "practical" details of their future professional life. The two *must* be combined, and it is only by a judicious combination of the two that a successful practitioner is made. The student who will not voluntarily undertake a pupilage during the college vacations should be compelled to do so, and, provided he makes good use of his opportunity, he will return to his studies with better and more correct ideas, and shape his future course to a much more definite plan than he would otherwise have done.

General Articles.

NOTE ON THE INTERPARIETAL REGION OF THE SKULL OF THE DOG AND HORSE.

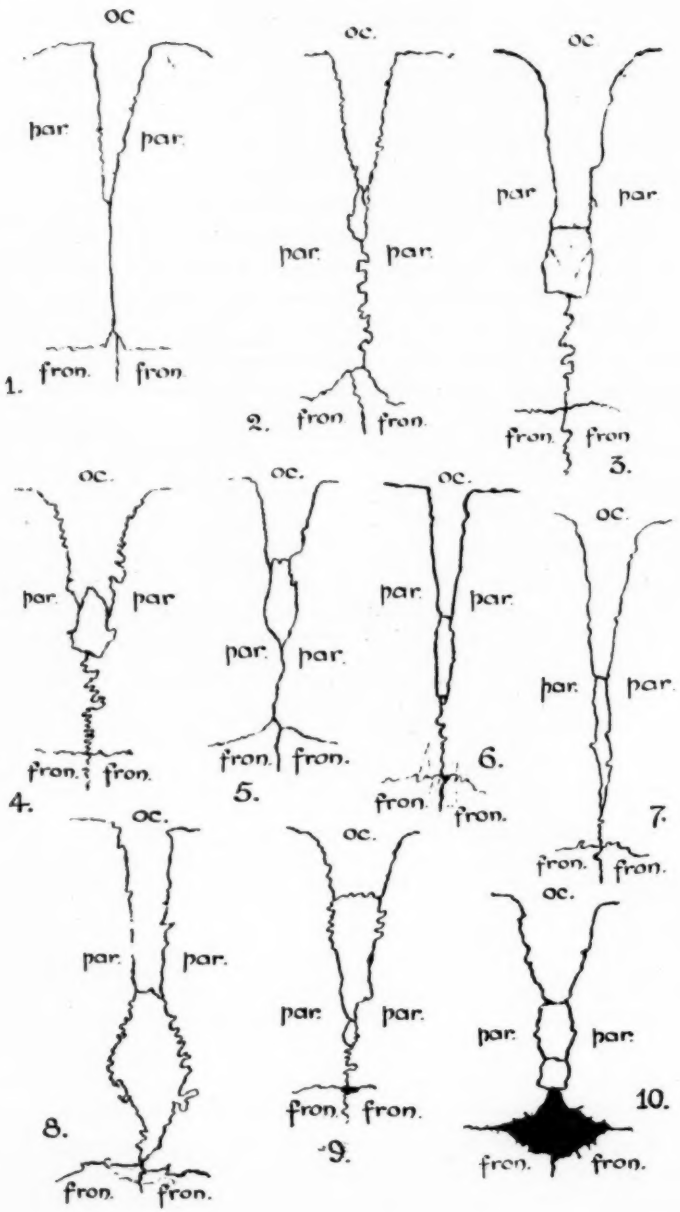
BY O. CHARNOCK BRADLEY, M.D., D.SC., M.R.C.V.S., PROFESSOR OF ANATOMY, ROYAL VETERINARY COLLEGE, EDINBURGH.

An examination of the interparietal region of a collection of dogs' skulls reveals a considerable amount of variation in the form of the occipito-parietal suture. In some measure the variation depends upon the general form of the skull; but this is clearly not the main factor. The chief cause is the presence or absence of ossicles developed in the interparietal suture. The average form of the occipito-parietal suture of the dog is illustrated by an outline drawn from the skull of a sheep collie, aged 12 months, and shown in fig. 1. Here the occipital bone is apparently prolonged for some distance in the form of a narrow triangular wedge insinuated between the two parietal bones. No independent ossicle is present.

In the succeeding figs. (2 to 11) one or more ossicles, of various size and shape, are depicted. Sometimes the independent bony unit is quite small, and does not appear to have had any effect upon the shape of the prolongation of the occipital bone. Fig. 2 shows such a condition. In other specimens the ossicle is either broader or longer, as demonstrated by figs. 3 and 7, and may reach as far as the fronto-parietal suture. The occurrence of two ossicles is illustrated in figs. 6, 9, and 10. Fig. 11 shows the condition of the interparietal suture in the skull of a pedigree Blenheim spaniel, aged 9 months. In this specimen the bony development of the cranium is singularly defective. Many vacuities exist between the various bones, and the bones themselves are remarkably thin. Sutural bones are numerous, for instance, in the fronto-parietal suture, as shown on the left of the figure, and the parietal bones are widely separated by two (formerly three) ossicles of some size.

The formation of ossicles in the interparietal suture being of far from uncommon occurrence, the question of whether they represent interparietal bones strictly comparable with the interparietal bone recognized as a normal constituent of the skull of the horse, ox, sheep, &c., naturally suggests itself. It is generally stated that the interparietal bone of the dog is already fused with the occipital at the time of birth, and, certainly, the average puppy's skull shows no independent element at this period. Figs. 12, 13, 14 and 15, are outlines from the skulls of animals at birth, or shortly before or after this event. Though the form of the occipito-parietal suture varies greatly in these skulls, the identity of the interparietal bone is lost. If still younger material be examined the form and extent of the interparietal element may be determined. Fig. 16 is an outline drawn from the skull of a 90 mm. fox-terrier + retriever embryo. An examination of the figure, and a comparison of it with figs. 12 to 15, discloses the fact that most, if not all, of the apparent prolongation of the occipital bone is formed by the interparietal.

In the light of developmental evidence it may be concluded that the ossicles so frequently found in the interparietal suture of the dog are merely accidental, and that the orthodox interparietal bone loses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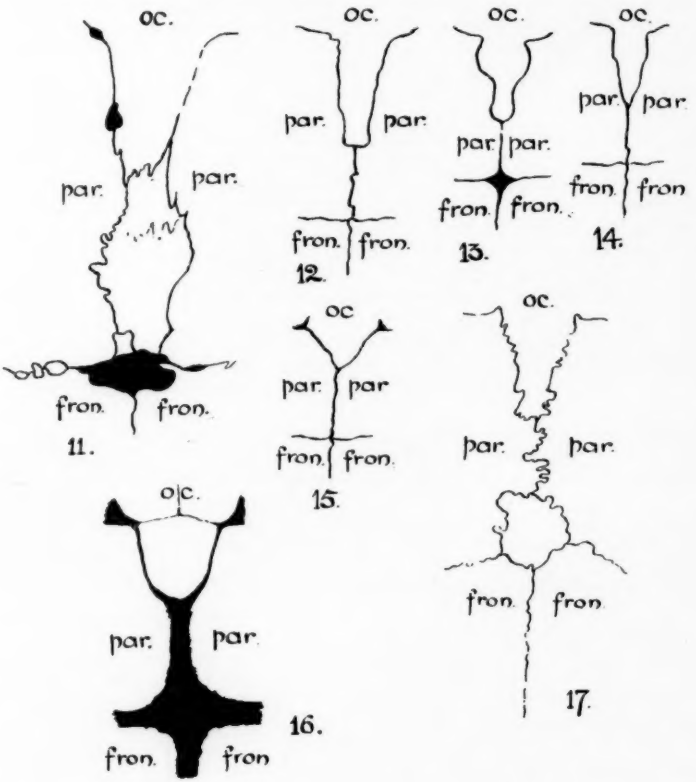
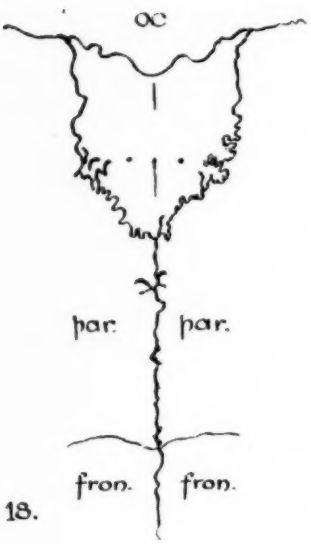
its identity early, but is long distinguishable as that apparent prolongation of the occipital bone thrust between the two parietal bones. The incidental character of the ossicles in question is partly demonstrated by the occurrence of pieces of bone not in contact with the occipital, such as is shown in fig. 17.

Concerning the reason for the development of sutural ossicles, little can be said with certainty. It does, however, seem probable that the artificial modification of the general form of the cranium may be



responsible in part at least. In the dog, interparietal ossicles are of most frequent occurrence in those breeds in which the cranium is wide, and more particularly where artificial selection has resulted in the production of a rounded form of head with defective bony development. In such animals it appears as though the sutures, and particularly the interparietal suture, were opened up, and sutural bones developed in order to remedy the defect.

Though little attention has hitherto been paid to the interparietal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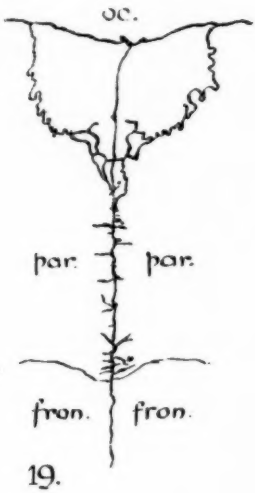
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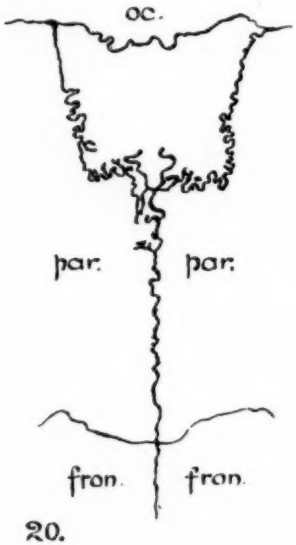
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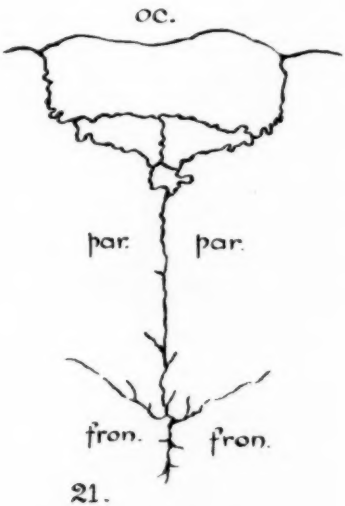
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region of the skull of the horse, the area is not without interest; more especially is this the case if it be studied in conjunction with the like region of the skull of the dog. In the one animal restrained breeding conditions have not influenced the general cranial characters; in the other, all degrees of modification, from the trifling to the conspicuous, have been evolved.

That an interparietal bone, developed from two lateral centres, and concerned in the formation of the ossific tentorium, is clearly distinguishable for some time after the birth of the foal, is one of the recognized facts in the morphology of the horse's skull. Usually, at the period of birth, the two centres have fused completely, and the interparietal bone forms a four-sided area on the exterior of the skull. Sometimes, however, the bilateral nature of the bone is longer obvious.

All this is well-known and has found an established place in the text-books. It is not so generally known, however, that there are frequently subsidiary centres occupying the gap between the interparietal and the two parietal bones. These are of variable number; but are most commonly two or three. At birth, apparently, they have generally either completely, or partly, fused with the interparietal bone, the intervening sutures being disjointed and faint, or entirely absent. Fig. 18 illustrates a common condition. Here the suture between the two lateral halves of the interparietal bone has not entirely disappeared. Two short sections of it are still visible. In addition, there are certain indications which one is tempted to regard as the remains of the sutures between the subsidiary ossicles and the interparietal bone.

In fig. 19 the bilateral constitution of the interparietal is obvious, and five additional ossicles are still separate. Whether there were originally two other ossicles may be open to question: there is certainly indication of such a possibility.

Specimens are not rare in which, though there are no isolated bony elements, the complexity of the suture between the parietals and the interparietal suggests the idea that such formerly existed (*Cf.* fig. 20). A very clear instance of the developmental feature under consideration is illustrated in fig. 21.

As showing that the ossicles herein described are not superficial and unimportant, it should be added that they form the oral (anterior) border of the ossific tentorium.

In the interparietal region of both the dog and the horse there are, then, a variable number of ossicles. In the dog, one, and in the horse, two of these are constant, and may be regarded as the interparietal bones of the text-books on veterinary anatomy. In the horse, these are bilateral; whereas, in the dog, so far as the material examined shows, there is a single median interparietal bone. Seeing, however, that the dog's interparietal evinces a tendency to precocious fusion with the occipital bone, it is possible that it has developed from two lateral centres between which a yet earlier fusion has been effected.

The accessory interparietal ossicles of both the horse and dog are variable in number and oral (anterior) to the main interparietal in position. They attain a much greater relative size in the dog, and extend in this animal for a greater distance towards the fronto-parietal suture.

EXPLANATION OF FIGURES.

OUTLINE OF SUTURES IN THE INTERPARIETAL REGION.

oc. = occipital bone; par. = parietal bone; fron. = frontal bone.

(1) Sheep collie, 12 months old.
(2) Fox terrier.
(3) Bull dog, 5 months old.
(4) Scotch terrier, 16 weeks old.
(5) Aberdeen terrier, 5 months old.
(6) Bull dog.
(7) Bull dog.
(8) Bull dog.
(9) Yorkshire terrier.
(10) Bull dog, 4 weeks old.
(11) Blenheim spaniel, 9 months old.
(12) Fox terrier.
(13) Pekingese (very young).
(14) Fox terrier embryo, nearly full time.
(15) Fox terrier, new born.
(16) Fox terrier + retriever, 90 mm. embryo.
(17) Jackal.
(18) Shire foal, new born.
(19) Clydesdale foal, new born.
(20) Clydesdale foal, 1 day old.
(21) Foal, new born.

TYPHOID FEVER OF THE HORSE—A PIROPLASMOSIS.

BY DR. ANTONIO PRICOLO, A.V.D., ROME.

UNDER the general term influenza were included three distinct diseases; they are: (1) Epizootic catarrh of upper air passages or "skalma"; (2) infectious pleuro-pneumonia of the horse; (3) typhoid fever of the horse. The first disease is very easily recognized by its epizootic character, by cough and discharge from the nose. The second is well characterized by its clinical and *post-mortem* features. I shall deal only with the third disease.

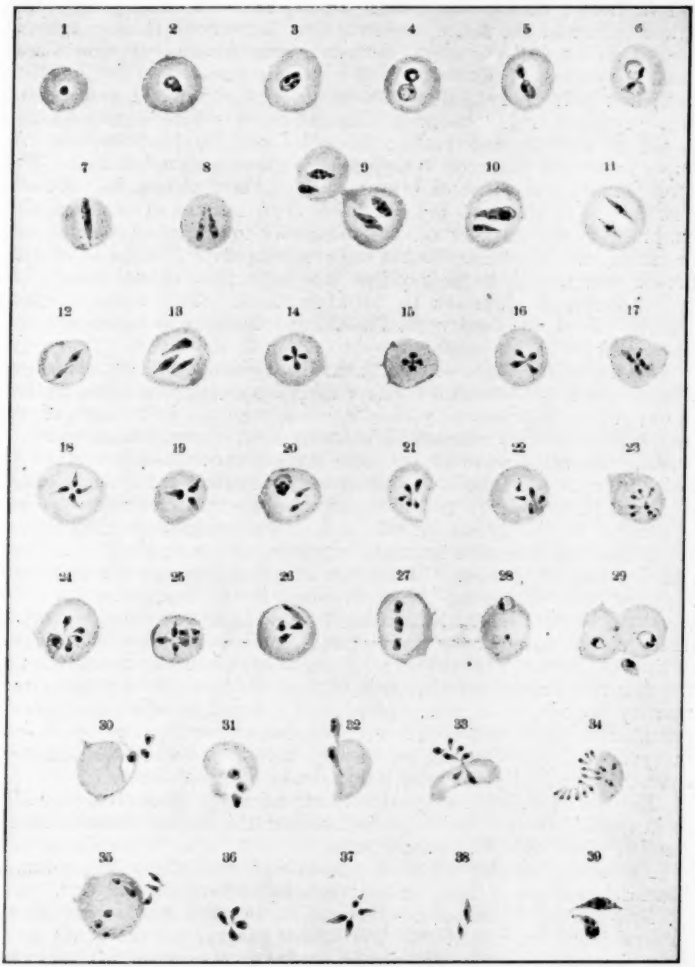
Typhoid fever of the horse is very well characterized by its epidemical, clinical, and *post-mortem* features.

Epidemical Characters.—Typhoid fever of the horse occurs exclusively in the warm season; its outbreaks begin with the first heat, and disappear with the first cold. It is always enzootic or epizootic: the disease appears to be permanent and predominant in some districts, from which it has little tendency to spread. The disease is not contagious in the ordinary way. To be exclusive of the warm season, to be enzootic and dominant in some centres, are the main epidemic features of typhoid fever of the horse.

Clinical Characters.—The beginning is sudden and obvious, never concealed; all the main characters of the disease are present and clearly apparent. Diagnosis does not present any difficulty. Fever, as a rule, is high, and has not a cyclic course; in most cases it reaches 105·8° F., even 107·6° F., but the severity of the disease does not coincide always with high temperature. In many fatal cases temperature does not surpass 103·2° F.. Fever may last one, two, three, five, seven, or ten days, and afterwards disappear either suddenly or gradually,

There are often relapses, which have an irregular course. As a rule, in acute cases fever is continuous.

Mucous membranes present a yellowish tint, which takes different



Equine piroplasmosis.

blendings according to the case—citron, orange, chromium, clay. In no other disease of the horse is yellow tint so very marked. This fact is most apparent on the conjunctiva and mucous membrane of the lips. In acute infectious diseases of the horse this yellow tint is exclusively

indicative of this malady. Ocular lesions, with hæmorrhages on the conjunctiva, nervous troubles, and hæmoglobinuria occur very frequently, but they are not constant features.

Diagnosis and Nomenclature.—An epizootic or enzootic disease occurring in horses during the warm season, characterized by fever and yellow colour of the mucous membrane, is without doubt "typhoid fever of the horse." Ocular lesions and hæmorrhages are also almost constant symptoms. Catarrh of the upper air passages, of the digestive tract, and pulmonary lesions are but complications. I employ the term "typhoid fever" because I find it to be the most usually employed in French and Italian literature and by practitioners. As stupor is not the dominant symptom, this name does not fit well. The term "biliary fever," which is employed in South Africa for the same disease, summarizes, to my mind, the two main and indispensable symptoms of the disease; but this term does not point out the epizootic character, and analogous terms were employed in Europe, when the disease was mistaken for a primary hepatic or intestinal complaint, and therefore it deserves to be abandoned. The term "equine malaria" does not deserve to be adopted because it increases confusion and includes a mistake.

Differential Diagnosis.—A first indication is furnished by the epizootic character and by the warm season; clinical symptoms are also evident signs; fever, depression, yellow colouration, and infiltration of the conjunctiva are very characteristic features, which cannot be mistaken. *Anthrax* occurs always in sporadic states; the outset is marked by colic, mucous membrane is violet, ocular lesions are absent. Only when the issue is death and the symptoms are not clear, and the enlargement of the spleen at the *post-mortem* cause some doubts, but bacteriological examination may remove all uncertainty. In *septicæmic strangles* there are cutaneous eruptions, anasarca, catarrh and suppurations. *Contagious pleuro-pneumonia* is the disease which most usually gets confused with typhoid fever; but, to my mind, it can be distinguished fairly well. Contagious pleuro-pneumonia is dominant in the cold season, typhoid fever is exclusive of the warm season; in the first the mucous membrane is red, in the latter it is yellow; pulmonary lesions, as a rule, are always present in infectious pleuro-pneumonia, while they are but an exception and occur as complications in typhoid fever. When pulmonary lesions are absent, co-existent cases with typical pulmonary lesions make diagnosis easy.

Enteritis of different origin is not attended by temperature as high as in typhoid fever; besides, it is rare that the disease attacks a great number of animals at the same time.

Anasarca is usually sporadic, œdema appears at the first instance, hæmorrhages are present, ocular troubles, as a rule, are absent.

Post-mortem Appearances.—Connective tissues and fasciæ show a general jaundiced condition. The spleen generally is enlarged; sometimes it reaches backwards nearly as far as the ileum. Theiler has found spleens weighing 8·5 lb., 9 lb. 4 oz., 8·2 lbs., 10 lb. I have found an enormous spleen weighing 22 lb. The pulp is soft, of dark colour, bright, and protrudes when a cut is made into the capsule. The liver is also enlarged, and of the colour of clay. The myocardium looks as if it had been boiled. Petechiæ may occur on the mucous and serous membranes.

Etiology.—Up to this the etiology of typhoid fever has not been known. The researches of Lignières, who ascribes it to the so-called equine *pasteurella*, have not been confirmed. On the other hand, Theiler, who has described "equine malaria" of South Africa, states: "So far as I can find from the literature, malaria in horses is unknown in all countries from which they were derived." Cadéac, Friedberger and Fröhner, and Moore, in their treatises, state that the etiology of this disease is not yet known. Guglielmi and others, who have made the first statements regarding piroplasms in horses, have mistaken the disease as identical with human malaria.

Baruchello and Mori were the first to have pointed out the presence of piroplasms in horses affected by typhoid fever. I was the first to prove the identity of typhoid fever of the horse with piroplasmosis.[1]

Baruchello and myself have made full investigations in many outbreaks of typhoid fever occurring in summer of every year since 1906 in several districts of Italy, and we have found *piroplasma equi* constantly present.

Microscopic Examination.—The smears of blood coloured with Giemsa's stain show the piroplasms stained blue, each with a red karyosome. The piroplasms have different shapes: round, oval, pear-shaped, club-shaped, lancet-shaped; in this latter case one of the ends is very sharp.

Piroplasma equi is of variable size. There are parasites which reach 5 μ in the greater diameter, and there are some as small as 1 μ. The karyosome, as a rule, lies at the blunt end of the pear-shaped and lancet-shaped parasites, and at the periphery of the rounded and oval forms; but it may be found also towards the centre surrounded by a blank: it forms only a heap or it is diffused all over the periphery of half the parasite, and sometimes it forms two or more heaps. Rosette forms are parasites about to split in four: the four piroplasms may lie separate in the same red blood corpuscle, keeping a cross-way disposition. These forms point out a way of reproduction. There are to be found often red blood corpuscles with two parasites, and more rarely with three. I have met with red blood corpuscles containing five piroplasms and more.

The parasites are present only in early stages of the disease; afterwards they disappear, but in fatal cases they are present up to the death. The red blood corpuscles infected are very few in mild cases; rosettes are very rarely to be found; but in two fatal cases I have found respectively 50 and 75 per cent. of the red blood corpuscles infected with one, two, three, four, five, and even seven piroplasms. As a rule, we can establish the severity of the disease from the number of red blood corpuscles infested.

Geographical Distribution of the Disease.—According to my experience and to the statistics of the War Department, typhoid fever is spread all over Italy, including its great island Sicily and Sardinia. It seems localized in centres from which it has little tendency to spread. In

[1] A. Pricolo: "La Febbre Tifoide del Cavallo e' una Piroplasmosi," *Giorn. d' Tippologia*, 1906, n. 11; *Idem*: "Ulteriore Contributo allo Studio della Piroplasmosi Equina," *Clinica Veterinaria*, 1906; *Idem*: "La Piroplasmosi Equina," *Mod. Zooiatro*, 1907, n. 2.

summer of every year several hundreds of cases of this disease occur amongst the horses of the Army.

The presence of *piroplasma equi* has been well established in Apulia, Abruzzo, Campania, Lazio, Sardinia, Bononia, Faenza, Sicily, Piedmont, Venetia.

Transmission of the Disease.—The disease may be conveyed by injection of blood of the diseased horses into the healthy susceptible ones.

Identity of Italian Equine Piroplasmosis with Equine Piroplasmosis of Africa and Asia.—The morphological characters of the parasite, its manner of reproduction, transmission of the disease by injection of the blood, clinical features, and *post-mortem* appearances show that Italian equine piroplasmosis is identical with equine piroplasmosis described by Theiler in South Africa, and generally with all equine piroplasmosis found in Africa and Asia.

SOME PRACTICAL OBSERVATIONS ON FRACTURES.

BY WM. MORGAN SCOTT, F.R.C.V.S., BRIDGWATER.

I DO not know of any branch of surgery which requires so much practical adaptability and so little theoretical knowledge as the successful setting and fixing of a fractured bone, save, perhaps, obstetrics; indeed, the two subjects, though widely diverse in themselves, possess details in common, which the practitioner must study carefully from a practical standpoint. Witness, for instance, how successful the charlatan and often illiterate bone-setter is over the educated and expert human surgeon. The essential qualifications a surgeon requires are manipulative dexterity and a careful attention to detail. For instance, in applying bandages, &c., pressure must be equally distributed over the broken limb, failing which there is a liability to strangulation, suppuration, and gangrene. And this brings me to comment on a very instructive article from the pen of Mr. Cameron, which appeared in the September issue of the VETERINARY JOURNAL, and also to offer a few words of friendly criticism. Mr. Cameron says: "The leg was then so much swollen that the exact nature of the fracture could not be determined. However, the leg was put in splints and bandages, finishing with a plaster of Paris bandage." If Mr. Cameron will allow me to say so, the mistake he made was to place a swollen and inflamed limb in a hard and fixed plaster instead of a semi-soft, temporary one; by so doing he interfered with an already disturbed and impeded circulation, producing cutaneous effusion, which forms an admirable breeding-ground for septic germs, the peptonizing influence of which caused the skin to give way, followed by local gangrene. Speaking from a fairly extensive experience of fractures (this neighbourhood seeming particularly prone to these accidents, by reason of the fact that the pasture land is very rich, maturing animals rapidly and producing big but friable bone—at present we have six cases of fracture under treatment), we make a point of only setting those cases permanently where effusion has not taken place, which is very seldom indeed. The practitioner, as a rule, sees the case after

the lapse of some hours, and the swelling may be so great, as in Mr. Cameron's case, as to preclude an accurate diagnosis. In such cases our usual procedure is to first cleanse the skin with an antiseptic, dry thoroughly, and cover with a thick layer of medicated cotton-wool, then bind round with several yards of strong, thick calico. This is strengthened and fixed by two splints of thick leather, one placed on the outer side and the other on the inner, the edges being drawn closer together by stout leather laces, the advantage of this being that, as the swelling subsides, the laces can be proportionately tightened. In a few days, at the discretion of the practitioner, when he thinks the effusion has sufficiently subsided, the whole mass being non-adhesive can be easily removed without disturbing the injured structures. After making certain that the fractured ends are in position, and that there is no outward or inward rotation of the distal extremity, a very thin layer of cotton-wool should be applied round the limb, over which several yards of stout calico bandages, previously saturated in a solution of silicate of potash, should be applied.

I have used this preparation with excellent results for some years. When set, it forms a very firm and adhesive plaster; it is neater and more cleanly to manipulate than plaster of Paris, and is not acted upon by moisture, nor is it so heavy and bulky as pitch.

In some cases it is advisable to use in addition the leather splints, applied as previously described. Wooden splints I consider not only useless, but dangerous. On an irregular surface, such as the leg of an animal, where it is ever so carefully padded, it is impossible to secure equable pressure; they therefore tend to interfere with circulation, to induce sloughing of the skin and other unsatisfactory sequelæ; moreover, they tend to slip and cut into the tissues, although the ends are padded.

The after treatment depends largely on the kind of animal, the situation of the fracture, and the surroundings. Speaking generally, in horses bones set better when the animal is not slung. I am inclined to think in these cases exercise and gentle movement of the limb facilitate a more healthy union, and it is astonishing what great care and adaptability is displayed by animals with a broken limb in getting up and down. This, of course, applies to fractures in the lower part of the limbs, and the foregoing remarks apply only to simple fractures; compound fractures in the larger animals, in the writer's experience, are generally unsatisfactory.

Clinical Articles.

CHRONIC GASTRO-ENTERITIS IN A HEIFER.

BY J. F. CRAIG, M.A., M.R.C.S., PROFESSOR IN THE ROYAL VETERINARY COLLEGE OF IRELAND, DUBLIN.

THE subject of the affection was a red and white cross-bred shorthorn heifer, aged 3½, which had been kept in the Royal Veterinary College of Ireland for nine months. The animal was sent in as being a case of some interest. She had been under veterinary treatment for some considerable time previous to admission to the college, and had received a variety of drugs, but none had proved of any avail. When the heifer came in she was in very poor condition and was affected

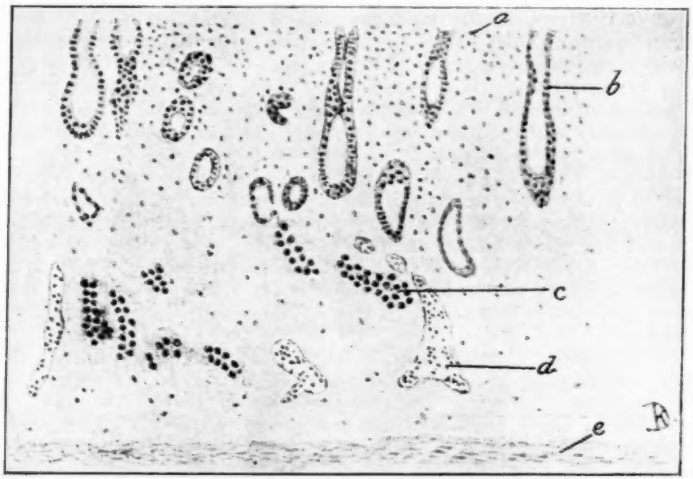


FIG. 1.—Lower-power magnification of a section of the mucous membrane of the abomasum of heifer (stained by Mann's method).

a = free surface of mucous membrane.
b = one of the oxyntic glands.
c = cluster of oxyntic cells.
d = thin-walled blood vessel.
e = muscularis mucosæ.

with a profuse diarrhœa; at the same time she fed well and ruminated like a normal bovine. The temperature varied slightly between 100·4° and 102° F. During her stay in the college her condition remained nearly stationary, but the diarrhœa during the past month or two almost entirely disappeared. She was tested twice with tuberculin, but did not react. The fæces were examined for eggs of parasites, and on more than one occasion a bile-stained egg, probably that of a *distoma hepaticum*, was found.

On June 22 last the animal was destroyed by chloroform, and bleeding from the jugular vein and common carotid artery of one side. The *post-mortem* examination was made immediately afterwards.

Examination.—Fat was very scarce throughout the body. Small patches of this tissue of greater consistence than the rest was found in various situations under the skin and serous membranes and between the muscles. A small quantity of serous fluid, estimated at about a quart, was observed in the peritoneal cavity. In the liver the larger bile ducts were slightly thickened, and appeared as yellowish white lines in its substance, converging towards the portal fissure. No flukes could be detected.

The abomasum contained very little ingesta. The mucous membrane was jelly-like and very much thickened. The folds were about three or four times their normal thickness. The mucous membrane of the small intestines for a distance of 6 ft. behind the pylorus was also thickened, and presented a wrinkled appearance, such as is described in Johne's disease.

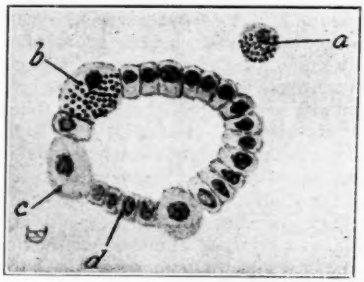


FIG. 2.—High power ($\frac{1}{12}$ oil immersion lens) magnification of a section through the acinous of an oxyntic gland from the above sketch, showing a basophil corpuscle between the epithelial cells, and near it an eosinophilous one.

a = eosinophilous corpuscle. *c* = oxyntic cell.
b = basophil corpuscle. *d* = central cell.

The mesenteric lymphatic glands and those of the stomachs were œdematous. The lungs showed slight lesions of interstitial emphysema. All the groups of lymphatic glands in the body were carefully examined but no tubercles were detected, indicating that the tuberculin had not given rise to any misconception. The other organs were normal.

Microscopic Examination of (*a*) *Films.*—Scrapings from the mucous membrane and smears of the ingesta of the abomasum were carefully examined under the lower power of the microscope for strongyles, but none were found.

Films from the mucous membrane of the abomasum, intestines and neighbouring lymphatic glands were taken and stained with the Ziehl-Neelsen method. They contained no acid fast bacteria. Small cocco-bacilli staining with methylene blue were included in some of the cells in the films from the glands.

(*b*) *Sections.*—Small pieces of the folds of the abomasum, the first portion of the small intestines and of a mesenteric lymphatic gland, were fixed for twenty-four hours in 10 per cent. formalin, washed in water to remove the fixing agent, passed through alcohol and xylol and

cast in paraffin. They were then cut on the rocking microtome. The sections thus made were stained in various ways with hæmatin and eosin, with Ziehl-Neelsen and hæmatin, and by Mann's method. In the mesenteric gland nothing unusual was found, the lymph spaces were slightly larger than one would expect.

In sections of the abomasum the epithelium had disappeared and the mucosa was exposed on the surface. In the latter layer very large spaces appeared between the fibres and cells of the mixed adenoid and lymphoid tissue. These spaces accommodated the mucoid material which gave the jelly-like appearance to the mucous membrane. The gastric glands were separated from one another by considerable intervals. In the oxyntic glands a large proportion of the central cells had been cast off and the large oxyntic cells appeared to be more numerous than usual. No animal parasites were found in the sections. In one case what looked very like an ovum was shown in the mucosa. Eosinophilous corpuscles were exceedingly numerous between the gland tubules, and even near the surface of the mucous membrane. Hardly a field of the microscope with one-twelfth oil immersion lens failed to reveal at least one of these corpuscles, as many as eight being frequently seen at the one time. They were especially well-stained by Mann's method. Basophil corpuscles, about three or four times the size of the eosinophilous leucocytes were equally numerous, and were met with chiefly between the epithelial cells in the secreting portion of the gastric glands, but also in the adenoid tissue of the mucosa itself. The granules within these cells stained very deeply with methylene blue, and attained about one-fifth the size of red blood corpuscles. In some cases these bodies appeared to be breaking up, and were discharging their granules into the lumen of the gland tubule.

In sections of the small intestines also the epithelium had been denuded from the surface of the mucous membrane, including its villi. The lymphocytes of the adenoid tissue were much more numerous than normal, and separated Lieberkuhn's glands by well-marked intervals. Eosinophilous corpuscles were even more numerous than in the abomasum, as many as thirty being frequently counted in one field under the one-twelfth oil immersion lens of the microscope. The basophil corpuscles were only very occasionally noticed.

What, then, was the cause of the condition? The presence of eosinophilia in the stomach and small intestines indicated animal parasites, and the most probable ones are strongyles. The thickened bile ducts suggested distomatosis. Probably, therefore, the causes of the condition in the first instance were strongyles in the abomasum and small intestines, and flukes in the liver. Although these parasites were afterwards got rid of, the effects still remained and interfered with nutrition. The mucous membrane of the abomasum and small intestines was so injured that the damage could not afterwards be made good, and that the production of gastric juice on that account was exceedingly defective.

I am indebted to Mr. D. Kehoe, student of the Royal Veterinary College of Ireland, for the two sketches.

A CASE OF ATAXIA IN A HORSE, WITH PATHOLOGICAL EXAMINATION.

BY VETERINARY CAPTAIN JOLLIFFE, M.R.C.V.S., 1ST LIFE GUARDS, KNIGHTSBRIDGE, W., AND FREDEKICK E. BATTEN, M.D.

THE following is the clinical history of the case of a horse, Army No. 43872, of the 1st Life Guards.

The animal was born in 1899, and showed no record of any important illness until June 23, 1907. On this date it was ridden from Knightsbridge Barracks to Wimbledon Common. On arrival

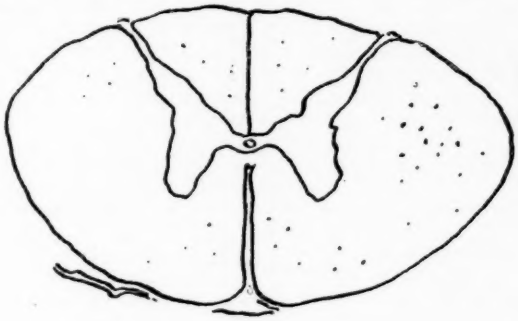


FIG. 1.

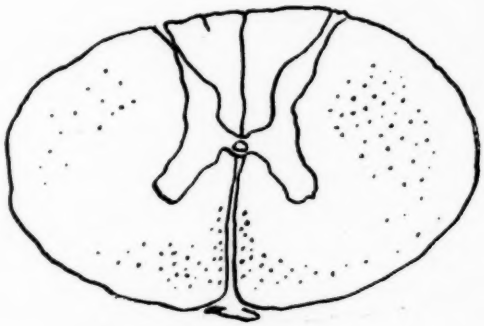


FIG. 2.

there it fell down, and was found to be seriously ill and extremely exhausted. It was probable that the onset of the illness had already commenced a day or so prior to this, but that it had escaped notice until that time.

The horse was with difficulty returned to barracks, supported on either side, being scarcely able to walk. This difficulty in walking was attributed by Veterinary Major Meredith (who was then in Veterinary charge of the Regiment) to weakness and exhaustion, the result of general constitutional illness, rather than to any abnormality

referable to the nervous system. On arrival in barracks, it was in a collapsed condition, with a high temperature, and showing all signs of acute illness. There was also a rusty nasal discharge. The case was diagnosed by Major Meredith as one of influenza, a severe type of which was very prevalent amongst the horses in the regiment at this time.

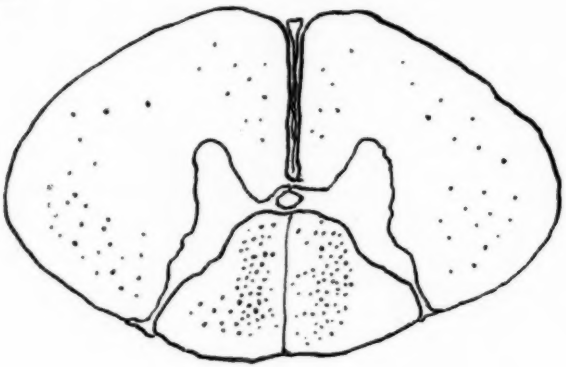


FIG. 3.

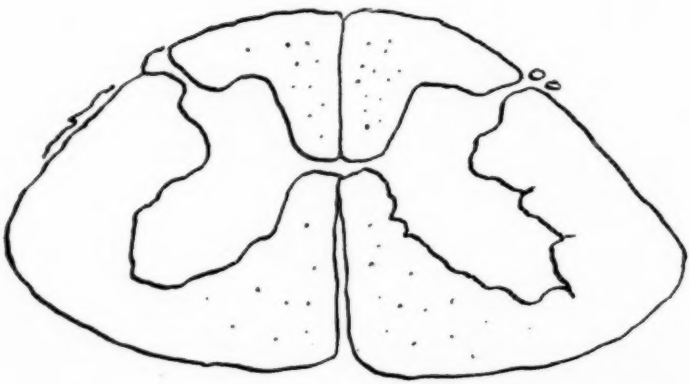


FIG. 4.

The patient rallied, however, in the course of a few days and appeared to be progressing favourably in every way, until about the fourteenth day after the attack, when it was noticed that, although now practically convalescent, and that all signs of constitutional illness had disappeared, there was loss of co-ordination of the muscles of the limbs and a consequent ataxic gait. The animal was kept at rest in a loose box and from that time till he was killed on November 9, 1907, the ataxic condition remained unchanged, though the animal appeared to be otherwise in perfect health.

Treatment in the form of potassium iodide and mercury biniodide,

mercurial injection, strychnine hypodermically and *per os*, counter-irritants and blisters to the spinal region, &c., had no appreciable effect on the condition.

When seen on October 5, 1907, the horse walked with the hind legs wide apart, and in a markedly ataxic manner. The legs were raised unnecessarily high. The tail was weak and one could raise it without any muscular resistance and without difficulty. The fore-legs also seems to be unsteady, but not to the same extent as the hind limbs. There did not appear to be any true weakness of the limb. If the head and eyes were covered up, it appeared to increase the amount of ataxia of the limbs, and the horse had greater difficulty in turning, and the unsteadiness of the hind legs increased. No alteration in sensation could be demonstrated. The knee jerk and ankle jerks could not be obtained, but they could be obtained in the normal horse. The sphincters were normal.

On November 9, 1907, as no improvement could be noted in the animal's condition, although the general health remained good, the horse was destroyed painlessly under chloroform by being bled to death.

Pathological Examination.—The spinal cord and brain were removed. Nothing abnormal could be seen in the brain and the spinal cord to the naked eye. On microscopical examination by the Weigert-Pal method, the cord appeared perfectly normal. On examination by the van Giesson method, no alteration could be seen in the vessels, the cells of the anterior horns were normal, and no inflammatory focus was present.

Specimens stained by the Marchi method showed considerable degeneration at the level of the twenty-seventh segment (mid thoracic region) in the posterior column; some degeneration was also present in the anterior lateral tracts (figs. 2 and 3). In the upper cervical segment (fig. 1) some degeneration was present in the lateral and posterior column, but much less than at the lower segment. In the lumbar region (fig. 4), again, very little degeneration was present.

The changes found have an irregular distribution and do not correspond to a systematic degeneration, it seems probable that they may be due to some toxic condition and might follow influenza, or other infective condition. The pathological findings seem to be very slight compared to the striking symptoms which were present. Pathologically the condition corresponds most closely to that which is found after diphtheria in man.

Our best thanks are due to Dr. Gordon Holmes, without whose help it would have been impossible to have completed the unusually arduous examination.

DESCRIPTION OF FIGURES.

(*All sections have been stained by the Marchi method.*)

FIG. 1.—Section of spinal cord at level of the fifth spinal segment. It shows scattered degeneration in both the anterior, lateral and posterior columns.

FIG. 2.—Section of spinal cord at the level of the sixteenth spinal segment. It shows scattered degeneration, which is more marked in the anterio-lateral tracts.

FIG. 3.—Section of spinal cord at the level of the twenty-seventh spinal segment. It shows more marked degeneration than any other segment examined. There is considerable degeneration of the posterior columns and to a lesser degree of the anterio-lateral tracts.

FIG. 4.—Section of spinal cord at the level of the thirty-third spinal segment. It shows scattered degeneration of the posterior and anterior columns.

DELPHINIUM POISONING IN A CART MARE.

BY A. MACGREGOR, MARKET HARBORO'.

Subject.—Bay mare, aged, and used for farm work. Message received that mare seems to be choking and attempting to vomit. We saw her the same day, September 1, and found the symptoms to be as follows: Mare dull; pulse weak; excessive saliva; deglutition, with attempts at vomition.

Diagnosis —Poisoning of some sort; thought to be that of aconite.

Treatment.—Ordered one pint of whisky to be given at once in linseed oil, the owner having already given one pint of linseed oil. Recovery.

History.—It appears that while at work on the forenoon of September 1 the mare had got her head over a garden hedge and nibbled some larkspur fruits growing there, thus bringing on the above-mentioned symptoms. Fortunately the mare did not get enough of the poison contained in these fruits to induce fatal consequences. Larkspur, or delphinium, contains a toxic principle known as delphinine, which is similar in its effects to aconitine found in aconitum napellus.

IMITATIVE FACULTY IN A RETRIEVER.

BY G. MAYALL, M.R.C.V.S.

It would appear from observation that dogs are more frequent imitators of each other and their kind than horses. There is a difference of opinion among veterinarians as to whether crib-biting, wind-sucking, and weaving, are habits contracted by one horse from another through seeing or hearing his companion or stable-mate go through the performance, rattling his chain or gnawing his surroundings. However this may be, I think, it will be generally admitted that the intelligence of the equine race is not so highly developed as that of the canine tribe. Any one who has watched a troupe of performing dogs must have been struck with the way they seem to vie with each other in their eagerness to go through their tricks, and with the zest and energy they put into their exertions, and the quickness and exactitude they follow my leader in his games. They compete with each other enviously and seem to enjoy the popular acclamation. Certain breeds, of course, for physical reasons, have a special line in which they excel, but the faculty of imitation must be an important asset to the trainer in his work, and one very intelligent dog should be almost as valuable a teacher to his fellows as even man with his intellect and master mind.

Again, wild animals of the carnivorous tribe imitate each other. Wolves hunt and bay in chorus, bears follow each other in inquisitiveness, and foxes have adopted the same time-honoured methods of plundering the hen roost.

Wild animals in captivity, especially in the case of travelling menageries, where the cages are placed opposite each other, and their occupants see each other, will frequently become imitators, and most

people have seen the ever reiterated walk of the hyæna, the restless pacing to and fro of the wolf, and the repeated peregrinations of the jackal. When these animals are chained up the length of their tether forms the boundary of the circle or semi-circle in which they pace.

A young retriever bitch that had a litter of pups when fourteen months old had afterwards been chained up for some time alongside an old dog fox in a horse-dealer's yard. She naturally fell away after the birth of her pups, these all dying. She was fed well, but remained very thin. She was treated by the owner for worms, but not getting any fatter professional advice was sought and the bitch brought under observation.

It was noticed at the time that she was restless on the chain, and went exactly through the same performance as the fox, with the exception that she did not finish the circlings and facings by jumping up on top of her kennel and putting out her tongue and wrinkling the corners of her mouth (commonly called laughing) at her observers as did the fox. Put in an airy, roomy place, and chained up so that movement was limited, and she could lie down only, she improved wonderfully in a fortnight and put on flesh.

The restless, "never still" habit, however, would seem hard to eradicate, as when her chain was slackened and lengthened, or when let loose in her box, she still kept eternally running round her habitation like an unhappy soul condemned to purgatory.

It is hoped that when left free to roam at will and off the chain she will improve and forget her habit and become a useful aid in the shooting season.

FATTY INFILTRATION OF THE LIVER AND HYPERTROPHY OF THE HEART IN A COW.

BY G. MAYALL, M.R.C.V.S., NORWICH.

Subject.—Cross-bred shorthorn cow. Well nourished, in fact on the fat side.

History.—Went down with milk fever the day following calving. Udder injected with air twice. She got up the second day and did well for a week, when she was turned out to grass. At night she was brought up and fed liberally, although this was contrary to order. The second day after being out she was observed to stagger in her gait and nearly fall down when being brought in. She went down again on the evening of the second day, but the symptoms were not those of milk fever.

Symptoms.—Inability to rise. Pulse small, but perceptible, 70 to 76. Bowels not acting. Grunting breathing. Temperature 105° F. Head straight. No blood on fæces when back-raked. Urine high coloured. This state continued the next day, but the temperature rose to 106° F. No normal action of the bowels.

Treatment.—Mag. sulph. sodium hyposulph. and whisky, but the bowels never acted. Linseed gruel in quantity.

The animal was slaughtered on the second day.

Post-mortem.—Liver markedly enlarged, pale and rounded. No flukes visible. Layers of fat in the mesentery, and calcification and

considerable enlargement of a mesenteric gland. The cavities of the heart were small and the walls of that organ much thickened, probably concentric hypertrophy. A small tubercle (caseated) in the left lung. All the other organs normal. The brain was not examined.

Remarks.—It was stated previous to death that the heart and lungs were affected, and it was expected to find some considerable disease of the digestive tract. The temperature of 106° F. was a puzzling feature of the case.

TWO INTERESTING CASES OF TUBERCULOSIS.

BY FREDK. HOBDAY, F.R.C.V.S., AND EDGAR BELCHER, M.R.C.V.S., KENSINGTON, W.

Tuberculosis of the Heart in a Dog.

Case I.—The subject was a bull dog, aged 5, whose history was as follows: He had been in the present owner's possession since he was weaned, and had always lived in the house, having the run of a large garden, and was never allowed loose in the street. As far as is known neither its parents nor other relations showed any signs of tuberculosis. The possibility of infection from milk is practically excluded, because as a rule he never had any milk, living mainly on meat given him cooked just as was eaten by the household, and biscuits. Had he been fed mainly on raw meat suspicion must have devolved on that as the means of infection. Further, no member of the household had been or was as far as was known consumptive. Hence the method of infection remains shrouded in mystery.

Veterinary advice was sought by the owner on account of the general unthrifty appearance of the dog at the beginning of the present year. This was the only time that he had been medically attended except for distemper as a puppy. His coat was harsh and staring, and had an unpleasant smell, and in several parts there were bare patches. It was suspected at first that the dog had mange, until the owner stated that he never scratched himself, but rather was very quiet and miserable. During the early months of this year and also occasionally before the animal appeared to have "heart attacks," he seemed to be in pain, would breathe heavily, and on three or four occasions seemed to faint. On sounding the heart at this time it was easy to perceive some abnormality, the sounds seemed to be muffled, the beats were irregularly intermittent, but nothing definite could be diagnosed as the murmurs which are so distinct a feature in valvular disease were not to be heard. The appetite was capricious, sometimes ravenous, while at others the dog would eat nothing. The owner agreed to have the animal put away, and the result of the *post-mortem* examination was as follows:—

On opening the chest and pushing the lungs on each side the heart was at once seen, as was suspected, to be abnormal; the pericardium was very much thickened, and was adherent to the heart muscle in several places. The muscle of the heart itself was intersected with fibrous tumours, which on being cut into were found to be fibrous throughout, and showed no caseation. These tumours were irregular in their disposition and were flattened, not distorting the heart at all.

The most peculiar feature, however, was a sac over the left auricle, apparently formed by the pericardium, and containing probably about 1 oz. of a shimmering silvery-looking fluid, while the inside of this sac was studded with tubercles of the size and appearance of rice grains, and which when cut were distinctly caseous. The valves of the heart were normal, and it is evident that the disease had been mainly a pericarditis. There were a few nodules in the spleen, mainly just under the capsule and projecting from the surrounding spleen pulp. The mesenteric glands were much enlarged, and this appears to point to an intestinal infection. The kidneys were cirrhotic, the liver was enlarged, but showed no tubercles, and the lungs and bronchial glands were normal.

This interesting specimen was submitted to Sir John McFadyean, who confirmed our suspicions that the disease was tuberculosis.

Generalised Tuberculosis in a Cat.

Case II.—The subject was a middle-aged female cat who was in an unthrifty condition, and had a swelling in the region of the parotid lymphatic glands, which was suspected and treated as an abscess. For this purpose the cat, who had not been well for several weeks, was kept in hospital. The throat was fomented, and 1 grain of potassium iodide was given three times a day. The cat's throat was not sore, but she seemed disinclined to eat. Within a week, swelling of the submaxillary glands commenced, and shortly after it was found that the prepectoral on both sides and similarly the precrural were much enlarged. Tuberculosis was suspected, and the cat was destroyed with chloroform and taken unopened to Sir John McFadyean, who again very kindly made a thorough examination, which revealed that the animal was in a terribly diseased state. It was not possible to find any organ which did not contain lesions of tuberculosis. The pleura and lungs were studded thickly with tubercles up to the size of a split pea. The bronchial, mediastinal, mesenteric, and iliac glands were all enormously enlarged and very distinctly caseous, and this material was shown by microscopic examination to contain large numbers of the particular bacilli.

Tuberculosis is by no means a common disease in the canine and feline species, but its importance cannot be overrated, since that these animals are the close companions as a rule of their human friends, who in the majority of cases are children, and there is every probability that the latter may be infected from their pets.

A RUPTURED COLON AND OLD-STANDING PERICARDITIS.

BY C. POWELL, M.R.C.V.S., WOBURN.

The subject, a cart gelding, aged 5, was taken ill with colicy pains whilst at work on the early morning of December 30 last. These pains continued in spite of some colic drenches which were administered at intervals during the day, and at night, as the horse appeared much worse, my attendance was requested.

On arrival about 7 p.m. I found the horse in a great deal of pain,

very restless, and continually up and down. The coat was dry, and there was slight tympany at the flank, the temperature was normal, and there was no injection of the mucous membranes, if anything these were slightly pallid. There had been no movement of the bowels beyond one small motion since he was taken ill that morning.

The most noticeable feature of the case, however, was the distressed character of the horse's breathing; this was accompanied by a most haggard expression of countenance. The respirations were peculiar, very quick and short, and the nostrils dilated, very much like the preliminary stages of an attack of pneumonia. The pulse was peculiar also, very quick, small and irregular. A consultation showed the heart's action to correspond with the pulse, but the sounds themselves were not clear; in fact, seemed very muffled in character. No abnormality could be detected in connection with the lungs themselves.

A physic ball and balls containing ammonia carbonate, nux vomica, and extract of belladonna were given. Enemas were also administered, but without any result. Some doses of choral hydrate in solution were left to be administered at intervals if the pain was severe and continuous.

On arrival about 11 o'clock the next morning I was told that after I left the previous evening the horse appeared to get better, and at 1 o'clock seemed quite free from pain, and was then left for the night. At 6 a.m. he ate a nice piece of hay, soon after which the pain returned again. On re-examination I found the same peculiar breathing, pulse, and action of the heart that I had observed the previous night. In addition to this the temperature had risen slightly, about two degrees; the mucous membranes were injected, and the body bedewed with a cold, clammy sweat. The horse's countenance was not haggard, he did not lie down much, but kept wandering round the box, and seemed continually wanting to get out into the yard. On being allowed to do so, he simply wandered round as in the box. Death occurred about 7 o'clock that night, and I made a *post-mortem* examination the following afternoon.

This revealed acute peritonitis and a rupture, about the length of one's hand, of the wall of the second part of the colon, near its supra-sternal flexure. On opening the chest the heart was seen to be adherent to the right side of the chest wall, and further examination showed complete adhesion between a large portion of the surface of the right ventricle, the pericardium, and two of the ribs, the latter had at some previous time been severely fractured, the ragged ends piercing and lacerating not only the pericardium, but the heart wall itself, as evidenced by an old cicatrix.

The horse was bred by the owner, and until his death was never known to have had a day's illness. He was a quick, active horse, and an exceedingly good worker. Neither did he show any signs of being short winded at work.

The question that occurs to me is :— at what period of his life did the injury to the ribs and heart occur? The idea is that it was during his young days before he was broken; when he would be lying from home and not seen very often nor closely.

DESTROYING A DOG WITH MORPHIA.

HENRY TAYLOR, F.R.C.V.S., HAYWARDS HEATH, SUSSEX.

SOME six months ago I was asked to go and see a dog about 5 miles away, and upon my arrival found the animal, a fox-terrier bitch, aged about 13, which had been several times under my care for various ailments, suffering from a bad attack of epizootic gastritis. The poor dog looked almost *in extremis*, and considering her age and the improbability of her recovery, the owner asked me therefore to put her out of her misery. I had not come prepared for this, but as I happened to have with me a bottle of injectio morphinæ (Willows, strength 1 grain in 10 minims) I suggested we should give her an overdose of that. Accordingly I injected into the subcutaneous tissue of the thigh 4½ grains of morphia, and followed this up with another 4 grains a few minutes later. The dog soon fell asleep without any preliminary disturbance, except for the passage of some fæces. In about fifteen more minutes I injected a further 8 grains through an intercostal space right into the substance of the lung, thinking that this would probably have a direct action on the heart; but though the animal appeared as if very deeply under chloroform the injection made no perceptible advance towards the desired end. I kept on giving her doses of 5 and 6 grains every ten or fifteen minutes, until I had administered no less a quantity than 45 *grains*. Convulsions then came on, alternated with periods of coma. I judged then that the end was not far off, and as I had been there for an hour and three-quarters I had to leave. I was informed later that the dog died about a quarter of an hour after my departure. The breathing all through was shallow, and I was surprised not to find it stop much earlier.

I am aware that the toxic dose of morphia is given as 4 grains per pound weight, but in the above case as the animal was so ill I quite expected that 8 grains would accomplish the desired object.

No vomiting occurred after the morphia was given, but the dog had been sick several times before during the day.

REMOVAL OF FOREIGN BODY FROM INTESTINE. RECOVERY.

BY JAS. NEVILLE MARSHALL, B.Sc., AND G. H. HARRIS, M.R.C.V.S., SAWBRIDGEWORTH, HERTS.

THE subject of this article is a bitch, the property of Mr. D. Harlow. I was asked to attend two weeks before she entered the infirmary. At that time she presented the following symptoms: Incessant diarrhœa, her evacutions being frequently tinged with blood, vomition, and slight rise of temperature, whilst palpation revealed a certain amount of pain in the right flank. An astringent sedative course of medicine was adopted, but with no definite results, the bitch presenting a more and more emaciated condition.

On September 3 she was admitted to the infirmary, and, having obtained the sanction of the owner to treat case as we thought best, it was decided to open the abdomen. Being quite in the dark as to the true nature of the case, a Murphy button and two Matkin bowel clamps were provided in case intestinal anastomosis was necessary. The parts having been shaved and rendered absolutely aseptic twenty-four hours before operation. An incision was made some 2 in. in length over seat of tenderness. The intestine in view being quite normal, digital examination revealing nothing, 15 or 16 in. of intestine were drawn out, keeping it covered with aseptic gauze wrung in warm boracic solution 5 per cent., the withdrawal of same brought into view a slightly thickened condition of the intestine, apparently the result of localized peritonitis, the cause being a wire nail, the point protruding $\frac{3}{8}$th inch through the intestine. My first impression was that the nail could be removed through an aperture which would need no suturing, but being aware that the protrusion of mucous membrane is not always efficient in preventing the escape of feculent matter in small wounds of the intestine (Gross), we enlarged the opening and withdrew nail, afterwards taking a good margin and drawing intestinal wound together with three Lembert sutures. The muscular tissues were drawn together with silk-worm gut, finally a dry boracic lint pad was applied to wound and firmly bound on. The patient made good progress, and was discharged on September 16 in much improved condition. The point of interest in the above case is that the presence of a nail should produce diarrhœa, and that it should remain so long in gut without causing fatal results, especially when one recognizes how rapidly slight extravasation of feculent matter is followed with septic peritonitis. Therefore we came to this conclusion that the nail must have been in a very septic condition when swallowed. Its appearance going to support this theory, as there was a vast difference in the colour of that part which protruded and that which was coming in contact with intestinal matter. But why its presence should produce diarrhœa I fail to conceive. The anæsthetic used was Wyley's chloroform.

Mr. Gelruth, the Principal Veterinary Surgeon to the New Zealand Government has been appointed Principal of the New Veterinary College founded by the University of Melbourne.

The Jubilee Memorial Bursary of £100 has been awarded to Mr. W. H. Andrews, M.R.C.V.S., Royal Veterinary College, London, who will proceed to study at the Alfort Veterinary School, Paris.

Abstracts and Reports.

BUTCHERS AND FARMERS.—THE WARRANTY QUESTION.

A SUBJECT of more than ordinary importance will engage the attention of Chambers of Agriculture, farmers' clubs, and other societies connected with agriculture, at their autumn meetings. Already, indeed, the action announced by the National Federation of Meat Traders' Associations on the warranty question has been earnestly discussed by some of these bodies, they having at once recognized its significance.

BUTCHERS' DEMAND.

What that action amounts to is best shown by the terms of the resolution, as proposed and unanimously adopted at the annual meeting of the National Federation, held at Reading, to the effect that on and after November 2 any animal or animals bought bonâ-fide by a member or members of any master butchers' association, either public or private sale, at a fair commercial market value, for the purpose of slaughter for the food of man, shall be guaranteed by the farmer, auctioneer, or vendor to be free from any infectious or contagious disease, and warranted to pass, after being slaughtered, the inspection of the medical officer of health for the district, or any qualified veterinary surgeon; and, further, that a copy of this resolution be forwarded to all affiliated associations, to endorse same by instructing all their members to decline to bid for any animals unless so warranted.

This sweeping resolution, if effectively carried out, would, of course, throw on the farmer or grazier the responsibility for any animal that after slaughter failed to pass inspection. At present and for years past, indeed since active steps were taken in regard to the condemnation and destruction of carcases showing tnberculosis, the loss has fallen upon the butcher or meat trader, and an agitation has been going on, both by butchers and farmers, to have the principle of compensation admitted by the Government, it being held by them that those animals which give no sign of the disease when alive are condemned in the interest of the public.

Recently a test case was tried in which a butcher failed to establish his claim against a farmer, and it appears that in the course of the proceedings the Lord Chief Justice pointed out that the only protection for the butcher was to obtain an express warranty when purchasing an animal. This test case cost the federation £300, and the circumstances have evidently had something to do with the recent determination to require a warranty.

AGRICULTURISTS' POSITION.

From the agriculturist's point of view it is difficult to see how a warranty can be given with any confidence. The question of identification is a difficult one that, however, might be surmounted. But the farmer or grazier is also in ignorance of the existence of this obscure disease in the animal he sells, for it should be clearly understood that the case of obviously ailing or doubtful animals, bought at

a speculative price, is not now referred to. Their removal is absolutely necessary.

The point relates solely to animals that in life are apparently quite healthy, but which on slaughter and inspection may be found to be slightly affected with tuberculosis, or it may be somewhat seriously diseased. The warranty would have to cover instances in which inspectors condemn carcases for the minutest defect of this character. In fact the occasional capricious action of inspectors is one of the difficulties of the case.

The Real Point.

The shifting of the loss from the butcher to the farmer or grazier will not settle the real question at issue, which is one that must ultimately be dealt with by the Government. The subject under discussion was clearly set forth in the report of the Smithfield Club, which was drawn up and adopted seven years ago, after conference with the National Meat Traders' Association. It was then declared that the council was in entire sympathy with the efforts being made in the interests of the public health for eliminating tuberculous animals from the herds of the country, and recommended that legislation dealing generally with the question of tuberculosis in cattle should be undertaken by the Government. Further, it was held that such legislation should ensure, among other things, compensation for condemnation of carcases from apparently healthy cattle; and fair, equal, and uniform administration of the law with regard to seizure and confiscation. It was also declared that in their opinion localized tuberculosis did not warrant, and should not admit of confiscation.

These recommendations deal with the subject on lines that were, and are, approved by many agriculturists and butchers, and there is little doubt that legislative action of some sort would have been taken long ere now, or the claim would have been definitely rejected, if it had not been for the sharp difference of opinion among scientists as to the comparative danger of the transmissibility of the disease. The appointment of the Royal Commission on Tuberculosis was intended to deal with these differences, but so far the published results of their investigations relate only to the milk question. Until they have reported on the meat question it is improbable that any adequate change in the law can be brought about, or that the subject can be settled on a permanent basis.

Desirability of Conciliation.

Doubtless the demand on the part of the butchers for a warranty from farmers will stir up much discussion, and it would be advisable if conciliatory measures could be adopted, pending the review of the question by the Government and a probable legislative remedy. This was the line taken at the recent meeting of the Norfolk Chamber of Agriculture, when a former resolution was re-affirmed to the effect that the time had arrived when the question of bovine tuberculosis should be dealt with, and urgently requesting that for every carcase voluntarily surrendered as unfit for human food compensation be paid to the owner on his proving that no suspicion of disease existed when the animal was purchased for slaughter; also that no trader should be prosecuted if able to prove the above, and that no animal costing less

than £12 should be considered eligible for compensation. The addition to this resolution that was adopted to deal with the present circumstances, was that "It is very desirable that all the Chambers of Agriculture be asked to consider the advisability of asking the Butchers' Federation to join them in bringing the compensation question before the Government."

No doubt if the butchers insist upon and can give effect to the demand for a full warranty from farmers or graziers, the latter will be obliged to adopt an insurance scheme, as has been shown by a correspondent (Mr. Robert Leamon), who points out that in South Wales this system has worked very well, the seller paying to the auctioneer an insurance fee of 1s. in the case of bullocks and heifers, and he suggests 2s. in the case of cows, of which a larger number are seized. Out of this amount compensation to the extent of three-fourths is paid to the purchaser in the event of the carcase being condemned. A similar system is adopted in some other parts of the country. But in view of the improbability of securing legislation just now, prior to the report of the Royal Commission, it seems to be desirable to have recourse to consultation and conciliation, so that both farmers and butchers may unite in dealing with the question.

Conference Proposed.

The grievance of the butchers under the existing law is undoubted, and in many cases they have suffered. But there would be a similar hardship on farmers if they alone had to bear the loss. On the occasion of the Reading meeting Alderman Simmons (Mayor of Henley) reminded the butchers that it was the rule that the buyers should take the risk. The circumstances of inspection, however, had increased that risk. Who, then, he asked should bear the loss? Surely, he replied, it should be by arrangement. They could never arrange a fair settlement of the difficulty until they had a conference of butchers and agriculturists.

As the warranty question does not finally settle the principle involved in the controversy, it would seem to be advisable, if possible, to adopt a temporary measure pending legislation, and the matter is of sufficient importance to justify the calling of special meetings of the various agricultural bodies interested, with the view of arriving at some working plan in consultation with the butchers. The actual seizures of such animals as are here referred to are not believed to have been very numerous, so that the liability for trade risks as between buyer and seller should not be incapable of amicable adjustment.

(*Daily Telegraph.*)

ROYAL VETERINARY COLLEGE, LONDON.

Inaugural Address by Professor Wooldridge.

"Mr. Chairman and Gentlemen,—It is a very pleasant duty indeed which falls to my lot to-day, namely, to offer a very cordial welcome to all of you here present on the occasion of the commencement of a new scholastic year—to those of you who come here for the first time as students, to those of you who are returning to continue the course of instruction in what is to be your life's work, and also to

those of you who, as visitors, have come here to show your interest in the welfare of this important institution, and in some cases perhaps to revive memories of so-called good old days. Some of you, somewhat pessimistic perhaps, may have come expecting to see us with very anxious faces, wondering and worrying as to what the future can hold for the veterinary profession, especially in these days of the motor-car and airship. I imagine that a similar feeling of uncertainty probably disturbed the peace of mind of veterinary surgeons when the first railway was opened. But what was the real effect of railways on the number of horses employed? Did it do away with horses? On the contrary, it made work for horses, which became more numerous than they had ever been before. Perhaps we may not expect quite the same thing to happen as the result of the introduction of motors, but let us look to facts and see what is actually happening. It is true that in large cities, such as London, a considerable number of horses have been displaced, especially for omnibus work and cabs, but at what cost? Many private bus-owners, whose businesses were prosperous until they undertook to displace their horses by motors, have been absolutely ruined. One of the largest omnibus companies in London was earning large dividends, and its shares were selling at a very high premium. During the last year's trading this company is reported to have lost well over £120,000, and the £100 shares a few weeks ago were quoted at less than £30. It must also be borne in mind that many people who keep motor-cars never kept horses, so that in their cases horses have not been displaced. Again, for business purposes I am of opinion that it is the railway companies that have been hit the hardest, many of the heavy loads now sent by motors having been formerly sent by rail. A very important statement was made a while ago at the annual meeting of a big London company that owns large numbers—thousands—of horses and also numerous motors, and in fact builds its own motors. After considerable trial and calculating the various expenses, having opportunities such as perhaps no one else has for keeping down expenses of repairs, a very large item indeed, the chairman pronounced the opinion that a moderate load for a moderate distance could be more cheaply conveyed by horses than by motors. If that be true, and I have no reason to doubt it, then there is hope for the horse for many years to come. Moreover, the market value of a good horse is as high or higher now than ever it was, as witness many of the prices paid at the recent Dublin Horse Show. As the value of a horse rises, so much earlier will the veterinarian be called in, and thus an equilibrium automatically establishes itself. In whatever light one views the advent of motor traction, however, one must not forget that attention to horses only constitutes one phase of the work of the veterinary profession.

"The true aims of the veterinary profession may be classed under three headings, viz., *Economic*, *Hygienic*, and *Humanitarian* or *Sentimental*.

"The economic aspect is a self-evident one, since the prevention and cure of disease in animals increases the material wealth of a country. Who can estimate the saving to this country brought about by the stamping out of such diseases as cattle plague, pleuro-pneumonia of cattle, foot-and-mouth disease, and sheep-pox? The expense at the time may have seemed enormous, but I wonder how many times over that amount has been repaid by saving our herds and flocks from

those deadly diseases, to say nothing of the inestimable value of an open market for our cattle and sheep practically all the world over? And how has that been done? By investing the veterinary profession with power to carry into effect recommendations suggested by veterinary surgeons. Although these diseases have gone, there are still others left with us to engage our attention, and some of them, I have no hesitation in saying, would soon be stamped out also if the leaders of our profession were asked to formulate a system with that end in view, and were provided with adequate machinery for carrying it out.

"The first disease which suggests itself to me in this connection is that terrible disease of horses which is communicable to man, and which, indeed, never occurs in man except from equine origin. I refer, of course, to glanders. This is a disease whose spread is much less rapid than some of those previously mentioned. Its onset can be detected in the earliest stages by means of that valuable diagnostic agent, mallein. One is often asked if mallein is infallible. Well, I would not like to go so far as to say it is *absolutely* infallible, yet if it is carefully applied, and the phenomena it gives rise to are properly interpreted by some competent person, I believe it to be as near infallibility as anything in this world can be expected to be. In most of those cases of supposed failure of mallein, where a reaction has followed its injection and no lesions have been discovered on *post-mortem* examination, I attribute the failure not to the mallein but to the examination. One small lesion in any one of the numerous lymphatic glands of the body would be sufficient to cause a reaction, and yet might be undiscovered on *post-mortem* examination owing to human limitations. Such cases, then, instead of being failures, are, in my opinion, more likely to have been cases of conspicuous success on the part of mallein. Consequently it was to be expected that mallein was destined to play a large part in any endeavour to control or eradicate glanders. This was realized by the Board of Agriculture, with the result that in the recent Glanders Order, which came into force this year, a reaction to the mallein test is recognised officially as definite evidence of glanders. Under the same Order, power is given to local authorities to deal with in-contact horses, and virtually to enforce the application of the mallein test to them, with the result that if they react they are dealt with in the same way as the more obviously affected ones. The Board is to be congratulated on the introduction of this Order, which, if properly carried out, affords hope that this disease will ultimately become extinct. Then we shall cease to read accounts in the daily Press of inquests on men dead of glanders after fearful agonies, and whose complaint it was impossible to correctly diagnose until a day or two before death.

"There is another disease of our stock which calls for some legislation, namely, epizootic abortion. This is a contagious disease which affects brood mares, cows, and ewes, and which is responsible for tremendous losses to our breeders. The losses include not only the loss of the progeny, but also the diminution in the value of the brood stock, since they fall away so much in condition, and also, in the case of dairy cows, the great diminution in the milk supply. Now this disease, which is at the present day causing so much havoc, is placed under no control whatever on the part of the authorities whose

business it is to look after the general health of stock in this country. At the present time any evil-disposed person who is possessed of a cow that has aborted and is doing badly may send that cow into a market or fair to be bought by an unsuspecting farmer, who, in turn, would thus introduce the disease into his own herd, and be put to the loss of hundreds of pounds, and perhaps ruined. There is no law to prevent such a thing happening. Undoubtedly this disease should be scheduled under the Contagious Diseases (Animals) Act. Every case should be reported, and the movements of all the animals on the farm where it occurred should be controlled. A farmer buying an infected animal could not possibly tell that it was so affected, and he might be ruined through absolutely no fault of his own. It is only reasonable to ask and expect protection against such a calamity. There is a Committee of Investigation appointed by the Board of Agriculture to enquire into this disease, and I expect some such recommendation will be embodied in their report. If so, I hope it will be adopted.

"The second aim of the veterinary profession, as I stated earlier, is a hygienic one, in so far as the health of the human race is concerned. There are many diseases common to man and the lower animals, and many of these are directly communicable from animals to man, such as glanders, which I have already referred to, rabies or hydrophobia, anthrax, and tuberculosis, to mention just a few.

"Hydrophobia is perhaps one of the most terrible diseases that a man could suffer from. At one time cases of this disease were not uncommon in this country, but it is now fortunately exotic to the British Isles. And how has this been brought about? By the adoption of methods advised by veterinary surgeons—methods that included the muzzling of dogs, which was so strenuously objected to by those who knew nothing of the disease, but which was enforced with such commendable firmness when Mr. Walter Long was President of the Board of Agriculture.

"The disease transmissible from animals to man which occupies the most prominent position in the public mind at the present time is undoubtedly tuberculosis. So much has been said on this subject of late that one is rather apt to wonder when talk will cease and action begin. The problem of eradication of this disease from our herds is so tremendous that one must think twice before recommending any comprehensive steps in that direction. I am afraid there does not seem to be any great desire on the part of farmers, with a few exceptions, to stamp out this scourge. It is quite possible for them to rid their own herds of it, and to keep them free, and until their actions prove their desire to do so, one hesitates to suggest a centrally controlled campaign against it. On the other hand, one must look at the subject from the point of view of the general public, since the disease is undoubtedly transmissible to man. The bovine tribe furnishes two very important articles of diet, namely, milk and meat, and the public demands protection against the possibility of infection with such a serious disease by means of food. How is this protection to be obtained? By a systematic examination, before and after slaughter, of all animals intended for human food, and also of all dairy cows yielding milk. This inspection must be carried out by veterinary surgeons, who alone are trained in the examination and recognition of healthy and diseased animals and tissues. And who is to pay for this?

If the public wants protection, the public must expect to pay for it. If people would demand milk from a tubercle-free herd, and would pay one halfpenny per quart more for it, farmers would, I am sure, produce it. It would pay them. At the present time, what encouragement is there for a farmer to go to great expense in procuring a dairy herd free from tuberculosis, when he finds the greatest difficulty in getting even one halfpenny per gallon more for his milk than his immediate neighbour, who has been to no such trouble and expense? With reference to the question of meat, one has a perfect right to demand wholesome produce if a fair price is paid for it. Whether the farmer or the butcher shall bear the loss caused by the confiscation of the carcases of tuberculous animals is a very knotty point, concerning which there appears to be trouble brewing. It is difficult to understand why either should stand this enormous loss, when it is asserted with some authority that it could be avoided by a mutual insurance of sixpence per head of cattle slaughtered. It is probable that the cost of administration alone of any scheme of public compensation would be more than that. The layman may also find it difficult to understand why he should compensate a butcher or farmer for preventing him from doing a wrong act in selling improper material for food. The National Federation of Meat Traders' Associations recently passed a resolution calling upon butchers not to buy animals for slaughter for food, unless warranted free from disease. The farmers, of course, object to giving a guarantee, and suggest that compensation should be paid out of the National Exchequer up to the three-fourths of the cost of the animal, but not payable on animals costing less than £10 or £12. I am afraid that any such scheme would be unworkable for various reasons.

"The following is a brief outline of a system that would appear to me to be much safer and more efficient, and, at the same time, would prevent the sale of many other injurious or otherwise objectionable carcases besides those affected with tuberculosis.

"All animals intended for slaughter for food of man should be submitted to inspection by a competent veterinary inspector, who should have the power to classify the animals into three groups. Those animals placed in Group A should be the apparently healthy, and, in the event of condemnation after slaughter, they should be eligible for compensation. Those in Group B should be the doubtful or suspicious animals, and, if slaughter is proceeded with, they should not be eligible for compensation in case of seizure. Group C should consist of obviously diseased and unfit animals, and should be immediately seized by the authorities prior to slaughter and adequately disposed of. They should, of course, not be eligible for compensation. By this means would be prevented the sale for food of carcases of animals that had died a natural death or had been slaughtered at the point of death. Such a system would necessitate the compulsory use of public abattoirs, which must be provided with suitable lairages. I submit that no system of meat inspection can be complete, or fair to the butcher and farmer and the public alike, unless it includes examination before as well as after slaughter. With regard to foreign meat, it should all without exception be submitted to proper examination before being allowed to be offered for sale. It should also be in the form of whole carcases or sides, and not otherwise cut up.

"Cancer is another terrible disease that is common to animals and man, but, so far as we know, it is not transmissible from one species to another. Therefore the human being does not appear to stand in much danger of contracting cancer from animal sources. But the diseases in both cases are so much alike that they are probably brought about by similar or identical causes. At present we do not know the cause, but it is being eagerly sought for in the hope that some means of cure or prevention may be elaborated. It is impossible to say whether cancer in man or the lower animals will furnish the direct clue to the cause, and, that being so, I maintain that it is the duty of the veterinary profession to assist in the search in every possible way.

"The humanitarian or sentimental aspect of veterinary medicine and surgery is also a very important one. It would, to my mind, be a very difficult matter to find any work more noble than the relief of pain and suffering of our poor dumb friends, who are so utterly incapable of helping themselves. There may be some people who think that veterinary surgeons, from seeing so much suffering on the part of their patients, have become quite hardened and callous, but I can assure you that it is not true. Of course they practise their profession to earn a living, and people who keep pets, and can afford it, are expected to pay for attendance on them. But, on the other hand, if a poor person is quite unable to pay for advice and treatment, there is scarcely a veterinary surgeon who would not readily prescribe, and in many cases provide medicines entirely free of charge, their only reward being a grateful expression from the patient's eye, or a lick of the hand and wag of the tail.

"Now, gentlemen, I have briefly gone over these various points in order to show you, and to emphasize the fact, that the veterinary surgeon fills a very important, and I may say essential, position in the community. Those of you who wish to join this profession must realize what is before you. Your education here must be regarded as a training, so that you will become useful members of the community. That must be your first ambition. You must not hope to amass a large fortune. If that is your idea, you have made a mistake, and you had better direct your energies to some other channel before it is too late. On the other hand, if you prove yourselves useful you will make a comfortable living, for it is as true to-day as ever it was, that 'the workman is worthy of his hire.' The prosperity of any country depends upon the health and material wealth of its population. You will have very important duties in both connections, as I have endeavoured to point out.

"So much, then, for the duty of the veterinary profession to the community. Now let us look for a few moments at the question from the opposite point of view. What is the duty of the State to the veterinary profession? The State must see that its population is protected against disease, and especially preventable diseases, such as those transmissible from animals to man. It must do what it can to ensure the welfare of its most important industry, which is still agriculture, in spite of its success in manufacture. And the success of agriculture depends upon the health of our herds and flocks. In order to fulfil these duties, the State must see that competent men are trained and educated for the purpose. Moreover, research must be assisted and stimulated. Veterinary education is a very expensive

matter. The State realizes that elementary and secondary education cannot be properly maintained by fees of scholars, and I submit that it is equally obvious that veterinary education cannot keep pace with the times if it is to be paid for by students' fees. It is very gratifying to note that this view is held by the Departmental Committee appointed by the Board of Agriculture to enquire into the subject of agricultural education. This Committee, of which Lord Reay acted as chairman, has just issued its report, and from its summary of principal conclusions and recommendations I quote the following: 'In view of the importance of veterinary education not only to owners of live stock but to the public, the State aid given to this branch of agricultural education is inadequate, and should be largely increased.' The same report gives an idea in one of its paragraphs of the assistance given to veterinary education by some of the European States. 'For instance, the Veterinary High School of Saxony receives a grant from the State equivalent to £7,750 per annum, and that at Munich to £10,000; the Prussian schools at Berlin and Hanover receive respectively £12,000 and £7,000; while the State grants to the veterinary schools in France amount to nearly £40,000 per annum.' The report continues: 'The Government grant to this college is £800 a year, and the Committee submit that in view of the national importance of its work this sum is quite inadequate.' Of course we are very grateful for the assistance which we already receive, but I hope the day is not far off when this college may be taken over by the Government and become, as it should be, a State institution. Veterinary research work in this country is in a very backward state, because there are practically no facilities for it. An investigator ought not to be worried about his daily bread. He ought not to be expected to teach for his living and conduct research in his spare time. Moreover, he cannot be expected to pay the attendant expenses out of his own already too small salary. That is not the way to success. There is much to be done, not only in investigating bacterial and allied affections, but also in connection with the effects of poisonous plants and antidotal treatment. I have recently had a number of plants sent to me from various parts of the country, with reports of toxic symptoms which they are said to have caused. Without some means for investigation it is very difficult to say definitely if those plants were responsible for the symptoms, and, if so, it is equally or even more difficult to suggest proper antidotal treatment. Endowments are certainly essential for research, and an investigator should be able to devote his undivided attention to research.

"There has been some discussion of late amongst veterinary surgeons as to whether or not it would be advisable to institute another diploma relative to Public Health. At the present time, although we maintain that the veterinary surgeon is the only person properly fitted by his training to be a meat inspector, the public is very slow in arriving at the same conclusion. Municipal authorities, with few exceptions, appear not to know that before a candidate is licensed to practise veterinary medicine and surgery he has to take out a comprehensive course of lectures on comparative pathology, which is followed by a special course of lectures on meat inspection, and practical instruction at an abattoir, and, after having done so, his knowledge in the subject is put to a very severe test by a board of external examiners. There is no indication of this on the face of the diploma, and a veterinary surgeon

applying for a post as meat inspector has nothing to show that he has undergone that special training. Recent advertisements for candidates for such posts show conclusively that something is necessary. It seems to me that the difficulty might be overcome by some slight alteration in the wording of the diploma, or by the granting of an additional certificate. If the Royal College of Veterinary Surgeons will not do this, then I think it would be well if the various teaching colleges gave special class certificates in the subject.

"These reflections bring one's mind to the institution in recent years of post-graduate courses of study. Some people may think post-graduate courses unnecessary, but personally I am not of that opinion. On the contrary, I think they might with advantage be considerably extended. In order to pass the necessary professional examinations before he is awarded the Diploma of the Royal College of Veterinary Surgeons, a candidate has to receive a thorough general education in all subjects appertaining to veterinary science. The amount of work to be done and the time allotted to it do not permit of specialization. Hence the necessity for a post-graduate course of study. If a National Veterinary Service of Public Health is to be established, as some of us hope, specialists will be required—men who have taken out a special course of instruction in the subjects relating thereto, such as pathology and its practical application, meat and milk inspection, hygiene, jurisprudence, and pathological chemistry, such as will permit of conducting ordinary tests and the intelligent interpretation of analysts' reports. I submit that it would be well if a post-graduate course were modelled on those lines, culminating in an examination and the award of certificates to those attaining efficiency. Again, I suggest that another post-graduate course is desirable for the general practitioner, a course which I have reason to believe would be appreciated and well attended. The subjects included in this course should be surgical anatomy, operative surgery, the recent advances in medicine, and serum-therapy.

"Now, gentlemen, I expect this address would be considered quite incomplete if I omitted to give a few words of advice to students. I have nothing new to say to you in this connection. All the advice I have to offer has already been given many times. I would like to impress upon you, however, that your success in your professional life will depend almost entirely upon the thoroughness of your work here, and not upon your ability to scramble through examinations. Remember that examinations are only the means to an end, and not the end itself. They are necessary evils—necessary to ensure at least a minimum of knowledge before you will be granted your licence to practise the science and art of veterinary medicine and surgery. If you work consistently and honestly from the beginning of the term you need have little fear of examinations. If you meet with any difficulties in your course of studies make a note of them, and seek information concerning them from your teachers. Few things give a teacher more pleasure and encouragement to help than genuine enthusiasm on the part of a student for his work. I don't refer to that spurious enthusiasm which suddenly comes into existence shortly before examinations. I call it spurious enthusiasm—it would be more correctly called 'funk.' No, your teachers are not hard taskmasters, although their work savours of slave-driving sometimes when students are lazy and unresponsive.

"I have been able to console myself by reflecting on a remark which you once made to me, Sir. You probably never thought of it again, but I often have. I was becoming somewhat disheartened at being unable to get certain facts into the heads of students, when you sagely remarked: 'Don't worry about it; you can't get a quart into a pint pot.' That is quite true, of course; but, on the other hand, if you were to put oats into a bushel measure quickly till it was apparently full, and then gently shake or knock the measure, you would observe that the oats would not quite fill it now, and more could be put into it. So I believe it to be with students in cases of slackness—a little judicious rousing may sometimes have a wholesome effect.

"The best way to do keen, hard, intellectual work is to mix with it a fair amount of rational healthy exercise in the open air. We are all familiar with the old saying that 'All work and no play makes Jack a dull boy,' so I suggest to all of you who can do so that you should take an active part in the sports of the college—either football, cricket, or boxing, or whatever may be the game of the season, and so take the opportunity of developing a sound mind in a sound body. For success in life they are both important, and possessing both, and using them properly, you will attain honourable positions, and be a credit to yourselves, your college, and your country."

NATIONAL TUBERCULOSIS CONFERENCE AND EXHIBITION,

To be held in London, February 16—21, 1909.

General Committee—Preliminary List.

Alderman Sir William Treloar, Bart., J.P. (ex-Lord Mayor of London), Sir William J. Thompson, M.D., Sir P. Sydney Jones, M.D., Sir John Bamford Slack, Rev. Alexander McLaren, D.D., Colonel James Stewart Mackenzie, of Seaforth, Stanley B. Atkinson, M.B., M.A., J.P., George A. Crace-Calvert, M.B., L.R.C.P., M.R.C.S. (Vale of Clwyd Sanatorium), Percy Jakins, M.D., T. N. Kelynack, M.D., M.R.C.P., T. D. Lister, M.D., M.R.C.P., A. Scott Smith, M.B. (Dartmoor Sanatorium, Chagford, Devon), Ralph Vincent, M.D., M.R.C.P., Jane Walker, M.D., Thomas Oliver, M.D., M.A., C.M., Professor Hobday, F.R.C.V.S., F.R.S.E., Professor Wooldridge, F.R.C.V.S., Douglas A. Reed, M.D., J.P., M.O.H. (Tenby), F. S. Toogood, M.D., M.R.C.S., L.S.A., F. Rose (Educational Adviser's Department, L.C.C.), Robert Macbeth, F.R.I.B.A., and others.

A National Tuberculosis Conference and Exhibition will be held in the Caxton Hall, London, during February, 1909. The object of this gathering is to arouse all sections of the community to the importance of securing more adequate means for the prevention and treatment of tuberculosis in all its forms. Consumption is a national scourge, calling for effective organization and for the practical co-operation of all scientific, educational, and humanitarian forces which make for human betterment and racial progress.

Recently a series of very successful conferences and exhibitions have been held in different parts of Ireland under the viceregal patronage of the Lord Lieutenant and the Countess of Aberdeen. These meetings have excited wide interest and greatly stimulated the anti-tuberculosis movement in the Sister Isle. An International Congress is also to be held at Washington, U.S.A., in the early autumn. It has been considered highly desirable that a thoroughly representative conference should be held next year in the capital of the British Empire. Steps are therefore being taken to arrange a series of representative conferences and the formation of a scientific exhibition in London, in the early part of the coming winter.

Such an important enterprise should appeal to all interested in and working for the physical improvement of the nation. It will have the support of statesmen, representatives of the Army, Navy, and other public services; Members of Parliament, of County, Borough, and Rural District Councils, and Boards of Guardians; the medical profession and officers of health; governors of orphanages, cripple homes, and many like institutions; ministers of religion, schoolmasters, and teachers; those responsible for the conduct of hospitals, sanatoria, and other establishments for the sick; nurses and district visitors; and all the many individual workers who in city and country, at home and in our Colonies, are striving for the national welfare.

During the Conference numerous lectures and demonstrations will be given by well-known authorities, and discussions will be held on the more important problems connected with the tuberculosis question. Tuberculosis occurring in infancy and childhood will receive special consideration. It is anticipated that almost every aspect of the anti-tuberculosis movement will be dealt with by experts. Much valuable material will thus be collected, which will go far to provide increased powers wherewith to combat the ravages of "the great white plague"—a preventable plague—which is now causing incalculable individual suffering, much domestic misery, and immense national loss.

Under the direction of members of the medical profession, a collection will be made of reliable preparations and appliances proved to have been of service in the prevention, arrest, and treatment of the various forms of tuberculosis.

Authorities from different parts of the Empire, and Continental leaders in the anti-tuberculosis movement, will be present and take part in the proceedings.

An important section will be devoted to the consideration of the dangers of the communicability of tuberculosis from animals to man. It is expected that leading veterinarians will take part in the Conference, and an exhibition of specimens lllustrating tuberculous disease in cows and other domestic animals is to be arranged.

Besides the more strictly scientific conferences, at which papers will be read and discussions initiated, various meetings will be held with the object of affording authoritative information with regard to various practical public and domestic aspects of the tuberculosis problem.

Arrangements will be made for country and foreign visitors to visit the chief sanatoria and special hospitals for consumptives and other sufferers from tuberculosis situated in and near London.

No efforts will be spared to interest all sections of the community

in a consideration of the fundamental principles and scientific procedures on which the conduct of a successful campaign against tuberculosis must depend.

It is confidently anticipated that much benefit will accrue from a gathering of such authority and dimensions in the capital city of the Empire.

It is hoped that all in any way interested in the objects and work of this National Tuberculosis Conference and Exhibition will communicate at once with the Secretaries to the Organizing Committee, from whom all particulars can be obtained.

Offices of the Medical Society of London,
11, Chandos Street, Cavendish Square, London, W.
July, 1908.

THE VETERINARIAN IN WESTERN CANADA.

BY H. SPROSTON, M.R.C.V.S., NOKOMIS, SASKATCHEWAN.

My object in writing this short article is to give veterinarians at home an idea of what a veterinary surgeon's life and prospects are in this Western country. I shall just speak as I have found things, and am open to correction. For an old country practitioner to start up in this country before spending a short time with a Canadian veterinary surgeon is, in my opinion, a great mistake. As regards diseases, take swamp fever, for example, one has no experience of it at all, and in summer one is sure to come across numerous cases. The farmers lose more horses from this disease than any other I know of, and no cure has yet been found. A little capital to start with is a necessity, as for most of the work done one has to wait until the fall for the cash, when money is plentiful. Of course the life has its drawbacks as well as its advantages. In winter, with 40° below zero, one may have to drive 30 miles or more, and this is one of the hardest parts of our work. The climate is all that can be desired; there is plenty of shooting game, such as wild duck, geese, and prairie chicken, and in winter we have the wolf, and great sport is obtained with a few hounds and a good horse. The favourite pastime in winter evenings is hockey on the ice, the fastest game in existence. In this article I do not think it will be out of place for me to ask why, while at college, we are not more fully instructed in veterinary dentistry. I have found that out here there is a great deal of work done in that line. Castrating standing is a great help to one travelling over such a wide area where time is everything, and I should advise those intending to practise in this country to pay some attention to this method. In conclusion, I must say that I have always found the Canadian farmers a friendly body of men and very fond of their horses, and that they appreciate the help of a veterinary surgeon. Canine practice is *nil* except in a few large cities, where I believe a few practitioners find themselves kept pretty busy. Should any of my co-practitioners think of coming to the West, I should be most pleased to give them any information that will help them.

Review.

THE PSYCHOLOGY AND TRAINING OF THE HORSE. By Count Eugenio Martinengo Cesaresco. Pp. xv. + 335, with frontispiece. London: T. Fisher Unwin. Price 10s. 6d. net.

IT is surprising how little attention appears to be paid to the study of the horse's mind by some people who are constantly in contact with horses. It seems to us that much better results would, as a rule, be obtained if horse-trainers and horsemen in general paid a little more attention in this direction. This book will be found most interesting and instructive to all lovers of horses who regard horses as being something more than mere machinery. It gives one something to think about. The author does not ascribe an extraordinary degree of intelligence to a horse in the way of ability to originate ideas, but he strongly believes in the horse's great capacity for the association of ideas. For example, a certain action which a horse does not necessarily know to be wrong is associated in his mind with a sequel of an application of a whip, and consequently he refrains from doing it. This naturally depends largely upon memory, concerning the existence of which nobody holds any reasonable doubt.

One must always insist on being obeyed, and not allow a horse to carry out actions of his own free will contrary to one's desires. "If from a given place or from a given object the idea of fear was suggested to him, and he was able to swerve or turn back, he always wishes to turn back on that spot or on seeing that same object again. He wishes to swerve again and turn back because he had been able to do so, because the idea and remembrance of his having been able to do so remained with him. For this reason it is of the utmost importance to prevent the horse from doing as he would like, and to give him no opportunity of doing so." All practical horsemen know of the above fact, but probably few have thought of the explanation.

The whole book is full of an interesting reasoning of a horse's frame of mind, and should be read by all lovers and students of the horse.

Personal.

ONE of the British Association medals, struck in commemoration of their visit to South Africa, has been awarded to Dr. Arnold Theiler, C.M.G., the Government Veterinary Bacteriologist to the Transvaal, as an acknowledgment of his scientific services to veterinary science and agriculture. No award has been more popularly received, and the veterinary profession in England will equally unite with the Veterinary and Agricultural Committee in South Africa in congratulating Dr. Theiler, and also in congratulating the British Association upon their selection, for no man is more popular and no man has done better work than has Dr. Theiler for the country of his adoption.

MR. ELTON BELL, M.R.C.V.S., the Municipal Veterinary Surgeon for Penang, in the Malay States, is now in England on a twelve months' leave of absence.

In the recent Presidential Address given before the Glasgow and West of Scotland Veterinary Medical Association it was stated by Mr. Hugh Begg, who is one of the members of the Provisional Executive Committee, that the sum of £3,771 10s. had been raised towards "capital" fund and £227 towards "revenue," and that as soon as the amounts reached £5,000 and £250 respectively the Secretary for Scotland had promised to approach the Treasury for similar amounts, in order that the Glasgow Veterinary College might become an endowed institution. When this is satisfactorily accomplished the financial future of the College will be assured.

The University of Toronto have recently taken over the Ontario Veterinary School, the course of instruction being extended from two to three years. Professor Grange, V.S., M.S., is the newly appointed Principal, and the standard of the matriculation examination has been considerably raised.

The University of Melbourne, in Australia, is about to add a Veterinary Faculty, and to equip laboratories and furnish the necessary buildings, the sum of £3,500 per annum being set aside by the Victorian Government for this purpose. To a stock-raising country like Victoria a Government-aided institution of this kind ought to be invaluable.

Translations.

FRACTURE OF THE PEDAL BONE.

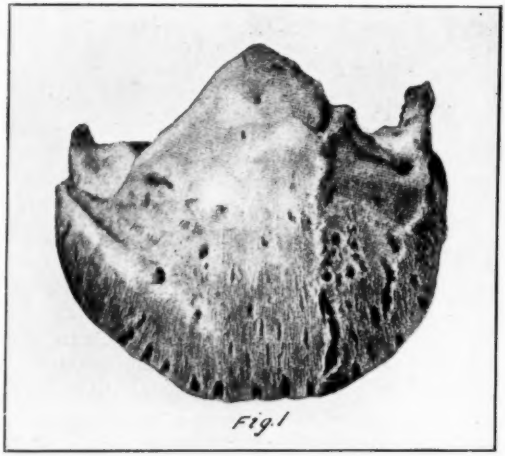
BY STAFF VETERINARY SURGEON WALTHER, LEIPZIG.

Fracture of the pedal bone is generally interesting, and more so because the veterinary surgeon seldom has the opportunity to confirm his diagnosis. It is not always certain, too, which is being treated—a real or supposed fractured os pedis. Indeed, we may conclude that fractured pedal bones are not yet sufficiently understood.

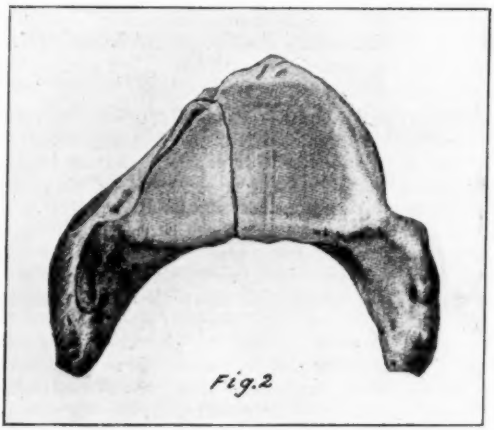
Although the third phalanx is contained in a strong, horny box, and is well protected against direct injuries, yet it is fractured, and, in my experience, oftener than is supposed. Diagnosis is not clear, because the signs of a fractured os pedis, on account of its hidden position, are not plain.

Staff Veterinary Surgeon Richter, of Chemnitz, saw a horse jumping a drain go too short with the near hind leg, so that only the toe of the foot trod on *terra firma*, whilst the hind part of the foot got the full weight, and doubled under. The result was, the leg got in the drain and the horse fell. On being got up, the near hind leg was bowed, but it could be used. The horse was supported into the stable and placed in slings. The animal sweated profusely with pain, and refused food and drink. Treatment followed general lines. On the tenth day the horse put his toe to the ground and stepped short. Gradual improvement took place, and after three months' rest the animal could be led in hand and was not lame. No changes were seen in the horny box. Several

days after, the horse ran away when being led, and smashed his off fore metacarpal bone into splinters and was killed. Opportunity was thus given to confirm the earlier diagnosis of fractured pedal bone.



Fracture of pedal bone.



Fracture of pedal bone.

The foot was cut off, boiled, and macerated. After an examination of the os pedis, the diagnosis was fully established. The fracture in question is in Veterinary Surgeon Richter's collection.

In the figs. 1, 2, and 3, the os pedis, with the fracture as it occurred

naturally, is shown. One sees in the long fracture how the pull on the perforans tendon arose. In fig. 1 the callus, knitted together in some places, is shown. The fracture may be seen as a groove. Over it the healing process has produced a thickening. Fig. 2 shows the fracture on the articular surface, no cartilage being present. Fig. 3 shows the break in the solar surface, callus and bone formation being visible.

Veterinary Surgeon Scholz writes thus of a second pedal bone fracture: In making a jump, a horse got into a trench with the near hind foot, so that the weight of the stride fell on the anterior wall of the hoof. The horse came to a standstill, and held the limb in a bent position. Examination with pincers showed no pain in the foot, but on the slightest pressure on the coffin joint the patient flinched con-

Fracture of pedal bone.

siderably. During the next three weeks there was not much change. Then a rather prominent swelling, flattened at the sides, appeared at the front of the coronet. A considerable bony prominence appeared to swell up out of the horny box. After four further weeks the thickening declined. The patient was led daily. Lameness and gait improved, and there was hope that the animal would again be serviceable.

In the preceding case there was doubtless a fracture in the neighbourhood of the pyramidal process, where the extensor pedis tendon is inserted. The tendon in the accident was so stretched that fracture arose.

In almost all cases of a fractured coffin bone the flexor tendons play a part. The attacking force meets the flexor tendons with their sinewy supports first; these do not admit of bending back from underneath, and the weight is transmitted at the moment of the shock on to

the deviated coffin bone. This will be stretched over its elastic limits, and fracture. We recognize this as indirect fracture. The force which leads to the fracture is in the body itself.

It is important to the veterinary surgeon to be in a position to give a correct diagnosis and prognosis. He must distinguish between objective and subjective symptoms. Of objective symptoms there is lifting of the leg, frequently repeated, and violent pain. To detect the fracture, put the hand round the hoof and the thumb in the hollow of the heel, and move the foot in different directions. Crepitation will seldom be heard, but pain will always be evinced. Often on pressure on the bulb of the heel the horse groans. Examination of hoof with pincers is not much use. Further objective symptoms are the change of the normal carrying of the foot on account of dislocation of the coffin bone, and the change of the hoof at the coronet. The subjective symptoms are the loss of function of a bone when broken, and the pain of a fracture. The function of the leg is injured, and there is great pain, due to confining of the swelling, to the fracture, to blood flow, and other things. The loss of activity of the foot, no elasticity at the heel and no expansion of the foot, and loss of function of the flexor tendons all cause sluggish circulation in the foot, and pressure pain is considerably increased. We should lessen this pressure. Remove the dead horn from the sole and branches of the frog, and thin this portion of the hoof. Deep grooves may be made in the horn of the wall in the direction of the horn fibres, in order that by a yielding of the wall pressure pain may be diminished.—G. M.

(*Ex. Berliner T. W.*)

CONTUSION AND RUPTURE OF THE URETHRA.

BY KRAMELL.

THE subject of this note, a gelding, presented an œdematous swelling, which was very painful, at the level of the perinæum. There was slight hæmorrhage by the penis, leading one to presume a wound of the urethra. Soothing applications were made over the region. Colicky symptoms, however, soon appeared, the animal stretching himself and seeking to urinate without result. Catheterization was tried, but the tube lodged at the perinæum; penetrating the bladder after a time, several litres of liquid flowed away, and pain seemed to cease. The following days the swelling increased, extending to the thighs, and sounding had to be practised. A surgical exploration was tried, and incision made over the prominent part of the swelling; the bistoury gave vent to a large quantity of urine lodged in the peri-urethral tissue and mixed with clots of blood. The urethra appeared torn and crushed. The illness was considered incurable, and the animal slaughtered.

The autopsy revealed violent contusion of the penial tissue and a rent situated four fingers' breadth from the neck of the bladder, and involving the urethra for a length of 5 cm.

(*Zeitschrift für Veterinärkunde.*)

GANGRENOUS PNEUMONIA COMPLICATED WITH LOCALIZED SEPTIC AND FIBRINOUS PLEURISY.

AUTOPSY—REMARKS.

BY M. A. CHANIER, VETERINARY SURGEON TO THE 23RD DRAGOONS (FRANCE).

PAULONIE, a grey mare, aged 6, belonging to the remount depôt at Agen. The mare had been treated in the infirmary from October 9 for a traumatic discharge from the left buttock. Evacuation of liquid had been obtained by cautery, puncture, and adherence of the walls of the pouch sought by blistering. Nothing abnormal happened until the 18th.

Evolution and Treatment.—On the morning of the 19th (ten days after entering hospital) Paulonie was reported dull and indifferent to her surroundings. It was supposed that she had injured herself during the night, for the hair at the base of the tail was grazed, and the wound made by the cautery bleeding. Careful examination and percussion and auscultation of the chest and abdomen furnished nothing noticeable. Loins sensitive, but did not flinch on pressure. Rectal temperature 38·5° C. A draught of acetate of ammonia and sulphate of soda was given her.

On the 21st the state was worse; off food; great thirst. Mare stood motionless in the corner of her box, head down, conjunctiva injected. Ears and legs cold. Slight serous discharge, from nostrils; no cough; air expired no special odour. Just behind the heart was a zone of tympanic resonance as big as the palm of the hand. Resonance of the upper half of the left lung, and of all the right lung, normal. Vesicular murmur absent in the inferior third of the left lung. Percussion at the level of the tympanic resonance produced indefinable vibration, which gave to the ear the sensation of a collection of sub-costal liquid. Exploratory puncture indicated.

Thoracentesis.—One thousand four hundred grammes of serous fluid came through the cannula under great pressure.

After thoracentesis, mare seemed a little brighter and drank some gruel. The area of tympanic resonance was reduced by one-half.

On the 23rd the condition was grave. Body balanced on the legs; head extended; clots of blood from the nose on the litter. Tubular breathing in the large bronchi. Heart sounds normal, heard distinctly behind the right elbow.

Thoracentesis.—One thousand two hundred and fifty grammes of coloured turbid liquid. The extremity of the trocar, free when inserted, becomes fouled by the lung at withdrawal. This is a sign that the pulmonary tissue has preserved its suppleness and permeability to air.

Differential Diagnosis.—The physical symptom dominant is tympanic resonance. This indicates the presence of air in the pleural cavity, and the special vibration accompanying it suggests the quivering of a liquid pouch. This points to pyo- or hydro-pneumothorax.

Pneumonia may be eliminated on account of absence of humid *râles* and rusty discharge, and the rapid progress of the disease. Simple pleurisy can be discarded, as the symptoms are unilateral; the sounds do not indicate it, and the heart beats can be plainly heard. Thora-

centesis shows the presence of liquid and at the same time the integrity of the pulmonary tissue.

The only rational diagnosis is that of localized intra-thoracic discharge. It may be conjectured that it is under the parietal pleura and due to traumatism (violent injury). The mare died on the night of the 23rd.

Pulmonary Lesions.—Spherical induration of the anterior lobe of the right lung. Section showed a central and peripheral zone, separated by a white greyish shell about half a centimetre thick. The central zone is a focus of pulmonary gangrene, multilocular disposition, and showing sanious, fœtid liquid, and damaged bronchi and vessels. The right lung atalectic; otherwise its tissue not altered.

Extra-Pulmonary Lesions.—The gangrenous focus opens across the mediastinum into the left pleural sac. There is a vast suppurating area under the anterior lobe of the left lung, surrounding the heart and reaching up to the diaphragm. Yellowish fibro-purulent deposit in the cavity.

Fibrinous deposits along the pleural leaves.

Abdominal Lesions.—Two kinds, one due to infection and the other of traumatic origin; softening and degeneration of the renal parenchyma; perirenal and subperitoneal hæmorrhage, causing a large clot, enveloping the two kidneys; hyperæmia of the pelvic curvature of the great colon; subcutaneous hæmorrhage in the right flank.

Other Lesions.—Muscles of the hind limbs discoloured and friable, and chiefly those of the stifles and buttocks.

Pathogenesis.—Paulonie's illness developed in five days. This did not surprise us, as gangrenous pneumonia is generally rapid in its onset.

The phenomena followed thus:—

(*a*) Localized infection of the right lung by a foreign septic body; apparently the passage of this body into the larynx is contemporaneous with a violent traumatism, of which it is the effect.

(*b*) Gangrenous pneumonia following the perforation of the lung and anterior mediastinum, and infecting the left pleural sac.

(*c*) Intoxication of the system, causing death when conjoined with mechanical asphyxia.—G. M.

(*Revue Générale de Médecine Vétérinaire.*)

GREY TRANSPARENT NODULES IN THE LUNGS OF HORSES, AND THEIR RELATION WITH GLANDERS.

BY ANGELOFF, SOFIA.

After a historic review of the question, where the works of Nocard, Preisz and Schütz occupy a high place, Angeloff gives his personal researches to show that one cannot base a decision as to glanders on pulmonary nodules only. He distinguishes by their macroscopic characters four types of nodules: grey transparent nodules, fibrous nodules, calcareous nodules, and glanders nodules, properly so-called.

(1) Transparent nodules are of two kinds—parasitic or lymphatic. In 90 per cent. of these nodules, on section, it was possible to find

a nematode larva. Lymphatic nodules are rarer, and their structure reproduces that of the gland itself; no glanders bacilli.

(2) Fibrous nodules are situated more deeply in the pulmonary tissue, and contain in their trabeculæ numerous eosinophile leucocytes; the author considers them cured parasitic nodules. They form at the expense of the bronchioles, as witness the strips of muscular fibre and cartilaginous islets one finds in them. They occur from chronic catarrhal or proliferating bronchitis.

(3) Calcareous nodules represent the final stage of parasitic nodules. Section after decalcification reveals a structure of concentric layers. In the centre, *débris* of the parasites.

(4) Glanders nodules offer more variety; the young nodules are nothing but a pneumonia focus trenched at its edges; later their centre becomes grey with a red aureole; granulous and humid on section. Microscopically one notes that these lesions are due to glanders bacilli that have provoked a leucocytary effect, with hyperæmia ending in fibrinous miliary pneumonia. No eosinophiles.

One thus sees that all transparent nodules are not glanderous. Those that contain a living or degenerated parasite are characterized by the presence of eosinophile leucocytes. Glanders nodules, on the contrary, never contain these, do not calcify, and become enucleated.

(*Archiv für practische wissenschaftliche Thierheilkunde.*)

INTESTINAL INVAGINATION IN CATTLE.[1]

BY M. HUBERT NYS, VETERINARY SURGEON, DIEST.

Etiology.—Sudden movements, jumps, &c., heavy feeds, ingestion of cold water, iced, frosted food.

Pathological Anatomy.—The author showed a pathological specimen from an animal dead of the complaint. It was a portion of the ileum, invaginated and gangrenous.

Symptomatology.—Commences with more or less violent colic, characterized by the animal striking the abdomen with the hind legs, frequently lying down and getting up, which may last several days. A period of calm and coma follows. Food (whether solid or liquid) and water absolutely refused. Arching of the vertebral column, tail extended and raised behind in vain effort to defæcate. After a while ejection of some fæces, but the second or third day these are wanting, and only more or less bloody fibrinous-albuminous lumps are voided. Absence of meteorism in the rumen, flatulence and rumbling in the right flank. Rectal exploration reveals often enough, but not always, an indurated mass about the size of one's fist, and on its surface one may feel two spiral turns, and a cord made by the stretched mesentery following its introduction into the invaginated intestine. Fever is absent. If the animal is not killed early he generally succumbs from septicæmia or intoxication from intestinal absorptions.

Diagnosis.—Easy, based on the following symptoms:—

(1) Violent colic, followed by calm.

(2) Obstinate constipation, causing the special attitude.

(3) Flatulence of the right flank.

[1] Read before the Veterinary Society of the Province of Antwerp.

(4) Absence of meteorism of the rumen.
(5) Lesions found on rectal exploration.

Differential Diagnosis — Indigestion from Over-eating. — Colic less violent and lasting, fulness of the rumen disappearing, and in time defæcation occurring.

Gastro-enteritis.—No special attitude; anorexia, but drink taken; fever; flat motions, excrement rarely coated, at times bloody.

Acute or Subacute Enteritis.—Dung, thirst, fever.

Recto-colitis.—Expulsive efforts followed by ejection of dung; appetite present.

Cystic Calculus with or without vesical rupture; absence of micturition, can be recognized by rectal exploration.

Prognosis.—Bad; advise slaughter.

Treatment.—Little to be hoped for from medicine; surgicai interference alone will produce results.

After having practised laparotomy of the right flank, try to disinvaginate the intestine manually, and where one does not succeed excise the gangrenous parts.—G. M.

(*L'Echo Vétérinaire.*)

A CASE OF ACUTE NEPHRITIS IN THE HORSE.

BY COMINOTTI.

In *La Clinica Veterinaria* Cominotti describes a case of acute nephritis in the horse, both from a clinical and *post-mortem* point of view. For ten days the horse showed loss of appetite and constipation. There were colicky pains and considerable discomfort on urination. His condition was good, but he hung his head and took no notice of his surroundings. His gait was stiff, and his hind legs almost dragged. The visible mucous membranes pale, the mouth hot and dry. Pulse 80 and strong. Heart beating strongly, and heart sounds very plain. Respirations 20 per minute. Auscultation and percussion gave nothing noticeable. Temperature 39·7° C. Œdema of the abdomen and hind legs. Examination of the kidneys *per rectum* was impossible, as the horse would not allow it. The appetite failed, but there was great thirst, and the horse lost his apathy when a bucket rattled or water flowed. Thirst unquenchable. Dung uncoloured by bile, now diarrhœic and stinking, and again normal. Urine passed frequently and with great pain. In twenty-four hours 2,300 cc. voided. It was turbid, yellowish brown and alkaline, weighed 10 lb., and contained 4 grammes of albumen to the litre. Indican greater than normal, glucose wanting. The small proportion of crystals of calcium carbonate was astonishing. In spite of salol and milk diet, the complaint got worse. Temperature rose to 40° C., breathing frequent, urination less and more difficult, and the horse died after four days.

On *post-mortem*, in the abdominal cavity was much amber-coloured clearish fluid, and but for some subperitoneal hæmorrhages and hyperæmia of the intestinal mucous membrane nothing else noticeable. Liver swollen, friable, and murky colour. Kidneys considerably

enlarged, but their consistence normal. Capsule easily torn away, and then the surface was brownish red, studded with numerous small holes. In the pelvis of the kidney, yellowish white shiny material. On section, all the layers of the kidney were brownish red and the cut surface discharged citron-coloured fluid. The mucous membrane of the bladder slightly hyperæmic, and contained a small quantity of thick reddish-coloured urine. In the thoracic cavity and pericardium, amber-coloured fluid. Heart muscle in the neighbourhood of the left ventricle thickened and a colour like dead leaves. Microscopic sections of the hardened kidney showed the glomeruli capsules filled with leucocytes and albuminous exudates. Tubuli contorti much widened and their lumen filled with albuminous exudate mixed with detached epithelium and leucocytes. Interstitial tissue infiltrated with small cells. In other places accumulation of round cells like little abscesses. Blood-vessels crowded with leucocytes, but normal.

Cause.—Decomposition of the intestinal contents, causing absorption of poisonous products by the kidneys, resulting in nephritis.

G. M.

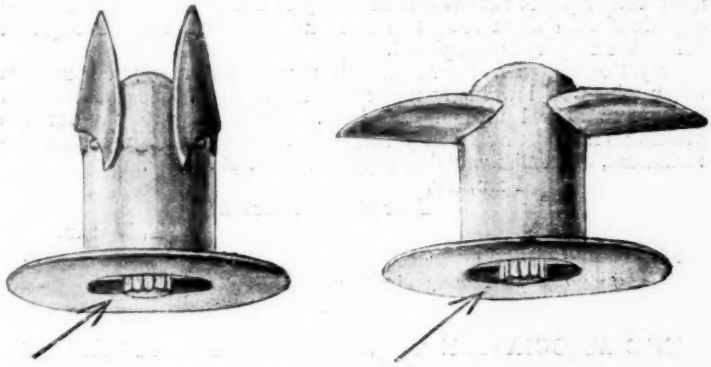
(*Deutsche Thierärztliche Wochenschrift.*)

New Instruments.

NEW TRACHEOTOMY TUBE.—SELF-ADJUSTING (Patented).

SUGGESTED BY J. WELLS, ST. MARGARETS, WARE, HERTS.

THIS tube is by far the simplest tracheotomy tube on the market. Since it has been patented, it has been examined by several members



The above illustrations show the tube before and after insertion.

of the profession, who are of opinion that it is the simplest and best yet invented. The advantages are:—

(1) That it is in one piece, thus doing away with the inner tube, so

troublesome and painful in inserting and removing. It is of an oval shape and is made in three sizes.

(2) That it can be inserted or taken out in three seconds by any unskilled stable lad.

(3) The flanges are made to work by a screw in centre, which raises and lowers the same. The screw also regulates the air passed into the lungs in a more natural manner, thus stopping cough, and doing away with all roaring, leaving the horse practically sound.

(4) The horse being fit to work one hour after the operation.

The tubes can be obtained from Arnold & Sons, West Smithfield, London, E.C.

Correspondence.

THE INCORPORATED SOCIETY FOR THE DESTRUCTION OF VERMIN.

To the Editors of the VETERINARY JOURNAL.

RAT COMMITTEE.

SIRS,—Mr. Birrell's reply in the House of Commons to Mr. Moore, M.P., to the effect that he was in full sympathy with the objects of the Rat Law promoted by us, and my letter to the Press, have resulted in thousands of requests reaching us for the Schedule which we have prepared for the purpose of obtaining such information concerning the damage done by rats as will help us to see our Bill passed into law.

As a consequence, the printing and postage bill of our Rat Committee has already assumed enormous proportions, and it appears from the requests received from many scientific societies and trade organizations that at least two million Schedules will be required before the enquiry is completed.

My Committee feel sure that there must be among your readers many who would willingly assist us in this great undertaking, and venture to appeal to them for help. Each 5s. will pay for the printing and posting of fifty Schedules, secure most important information, and enlist valuable support for our Rat Law.

I am, Sir,

Your obedient Servant,

A. E. MOORE,
Secretary.

95, Wigmore Street,
London, W., *September* 9, 1908.

THE ASSOCIATION OF VETERINARY OFFICERS OF HEALTH.

WE have received the following circular for publication. Copies have been forwarded to the following: The Secretary of the Local Government Board for Scotland, the Secretary for Scotland, the President of the Local Government Board for England, all Scottish

Members of Parliament, all Members of the Council of the Royal College of Veterinary Surgeons, and other interested parties.

To the Editors of the VETERINARY JOURNAL.

SIRS,—The Association of Veterinary Officers of Health, which is composed of Veterinary Surgeons holding Public Health appointments in the United Kingdom, had under consideration at their Annual Meeting, held in Edinburgh on 1st current, the Draft Regulations issued by the Local Government Board for Scotland, under powers contained in the Public Health (Regulations as to Food) Act, 1907, and unanimously passed a resolution condemning these Regulations as inadequate to safeguard the public health against the danger arising from the importation of unsound meat for human food.

The grounds of condemnation are, *inter alia*, as follows :—

(1) *The Classification of Meat is unnecessarily complicated.*—It should be distinctly specified that beef be imported in sides or quarters, veal in carcases or sides, mutton and lamb in carcases, and pork in carcases or sides—exception being made if desired, in special cases, such as loins of pork. If these meats be admitted in smaller parts, the inspector cannot decide as to their wholesomeness.

(2) *The Importation of Sausages and Canned Meats is not prohibited.*—These articles are quite as objectionable as, if not more so than, boxed boneless meat, and therefore ought to be debarred importation.

(3) *Stripping is not prohibited.*—Stripping is the term applied to the removal of the serous membrane of a carcase—that is, the inner lining—in order to destroy traces of disease. Obviously, the prohibition of so reprehensible a practice should be prominently set forth, whereas it is not referred to in any way whatever.

(4) *The use of Chemical Preservatives is not prohibited, except in cases of Tripe, Tongue, and Kidneys.*—Salt should be the only preservative allowed.

(5) *The onus of determining whether the Medical Officer of Health is to be called is laid upon the Customs Officer.*—The latter being, *ex officio*, totally unqualified to make any such decision, this regulation can only be considered as constituting a grave public danger. Inspection will never be effective until the importer be compelled to submit to examination all meat imported.

(6) *The Official appointed to inspect Meat is the Medical Officer of Health.*—Under the Public Health (Scotland) Act, 1907, Section 43, an approved Veterinary Surgeon is specified for the work, co-ordinately with the Medical Officer of Health and Sanitary Inspector, and in Sub-section 3 it is the *Veterinary Surgeon alone* who is so empowered. That the Veterinary Surgeon is the only official on whom the duty of meat inspection *naturally* devolves will at once be apparent from the fact—which would appear to be either unaccountably overlooked or intentionally ignored—that every Candidate for the Degree of Veterinary Surgeon is bound to attend the Meat Inspection Course of Lectures provided by his College, and must prove to the Examiners that he is proficient in the subject before admission to the Degree. Moreover, all civilized countries have already appointed veterinarians as the officials responsible for the protection of the public health from the dangers incident to the use of meat as human food. This is the case in all our colonies, North

and South America, Norway, Sweden, Denmark, Holland, Belgium, Germany, France, Austria, Italy, and even Russia. The case of Great Britain is therefore an anachronism, and a reproach which will never be removed as long as her meat inspection is relegated to officials who have had neither scientific instruction nor practical training to fit them for it, while, on the other hand, those specially equipped for the work are either inadequately recognized or entirely ignored.

The omission of the prohibition referred to in Objection No. 3 is a striking example of the serious shortcomings to which Public Health legislation is prone when drafted under such unfavourable auspices, whereas, under the guidance of a proper advisory expert, such a prohibition would be among the first and most obvious provisions.

There are other points deserving of remark, but the foregoing will suffice.

The members of my Association, therefore, unanimously urge, in the interests of the public health, the appointment of a Veterinary Surgeon, with practical experience in meat inspection, to the staff of each of the Local Government Boards of England, Scotland, and Ireland, and that these Draft Regulations be amended so that the importation of foreign meats be placed under the control and supervision of Veterinary Surgeons, in accordance with the most advanced Continental usage.

I am, Sir,

Your obedient servant,

A. M. TROTTER.
Secretary.

Moore Street Abattoir,
Glasgow, *September* 5, 1908.

Books and Periodicals, &c., Received.

Surgical Anatomy of the Horse, by J. T. Shaw Jones, F.R.C.V.S., Part III. (London: Williams and Norgate, sewed, 15s. net); Mulkmus' Outlines of Clinical Diagnosis (London: Baillière, Tindall and Cox, 15s. net); Tropical Agriculturist (Ceylon); Transvaal Agricultural Journal; Transvaal Agricultural Department Annual Report; Journal of the Royal Army Medical Corps; Milk and Meat Hygiene, by W. H. Dalrymple.

Letters and Communications, &c.

Board of Agriculture; Department of Agriculture and Technical Education for Ireland; A. M. Trotter; A. E. Moore; G. Mayall; H. Taylor; A. N. Pillars; H. Sproston; Dr. Bradley; Dr. Batten; Professor Craig; G. Sutton; C. Powell; G. H. Harris.

NOTE.—All communications should be addressed to 8, Henrietta Street, Covent Garden, London, W.C. Telephone, 4646 Gerrard. Telegrams, "Baillière, London."

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THE LATE ALDERMAN WILLIAM PENHALE, J.P., F.R.C.V.S.

(Late Mayor of Barnstaple.)